UNIVERSITY OF ALBERTA

ECOLOGICAL DEMOCRACY AND FOREST-DEPENDENT COMMUNITIES OF OAXACA, MEXICO

by

Ross Edward Graham Mitchell ©

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Canada

Lost in the Forest

Lost in the forest, I broke off a dark twig
and lifted its whisper to my thirsty lips:
maybe it was the voice of the rain crying,
a cracked bell, or a torn heart.

Something from far off it seemed
deep and secret to me, hidden by the earth,
a shout muffled by huge autumns,
by the moist half-open darkness of the leaves.

Wakening from the dreaming forest there, the hazel-sprig
sang under my tongue, its drifting fragrance
climbed up through my conscious mind

as if suddenly the roots I had left behind
cried out to me, the land I had lost with my childhood -
and I stopped, wounded by the wandering scent.

Soneto VI

En los bosques, perdido, corté una rama oscura
y a los labios, sediento, levanté su susurro:
era tal vez la voz de la lluvia llorando,
una campana rota o un corazón cortado.

Algo que desde tan lejos me parecía
oculto gravemente, cubierto por la tierra,
un grito ensordecido por inmensos otoños,
por la entreabierta y húmeda tiniebla de las hojas.

Pero allí, despertando de los sueños del bosque,
la rama de avellano cantó bajo mi boca
y su errabundo olor trepó por mi criterio

como si me buscaran de pronto las raíces
que abandoné, la tierra perdida con mi infancia,
y me detuve herido por el aroma errante.

- Pablo Neruda, *Cien Sonetos de Amor* (1959)

DEDICATION

I dedicate this thesis to Martha, Shirae, and Ryan for believing in my dream.

ABSTRACT

The theoretical concept of ecological democracy has emerged in recent years, but has been neglected as a topic of both theoretical and empirical inquiry. In Chapter 2, a discussion of relevant theoretical literature leads to a conceptual definition of ecological democracy. Four comparative scenarios help illustrate this concept, and several hindering and facilitating factors that influence the emergence and consolidation of ecological democracy are discussed. Two empirical examples from Mexico - one focused on industrial pollution and the other on community forestry - are compared in reference to the aforementioned factors. In Chapter 3, the intersection of forest management, forest trade, and local democracy are examined on selected Mexican forest-based communities. Common-pool resource regimes are explicitly linked to a historical context of intertwined social and political relations. The thesis tested is whether collective decision-making within common property forest systems is feasible in the face of mounting pressures for land privatization and trade liberalization. Mexico was selected for this study for its uniqueness of many successful common forestry arrangements. Key themes of democracy, forest trade, and socio-environmental wellbeing help assess whether social, historical, and other processes are responsible for the successes achieved to date. In Chapter 4, two guiding questions are whether local political mobilization occurs in response to changes in forest management regimes, and whether indigenous forms of forest management illustrate ecological democracy. Two forest communities selected for comparison in the Sierra Norte in Oaxaca, Mexico have taken different forest use paths: the former has opted for community-based forest management, whereas the latter has taken an anti-logging approach and struggled with its neighbours on a shared landbase for almost 50 years. Four key themes of ecological democracy - local governance, equitable decision-making, forest management, and environmental awareness - are described and discussed in relation to the two communities studied. In summary, this research found that achieving ecological democracy through an indigenous community forest model is both possible and, in certain cases, preferable to other alternatives. It also brings new insight into the meaning of democratic decision-making and environmental management.

ACKNOWLEDGEMENT

No research project is done without help along the way. I owe much more than words can say to the citizens of the municipalities of Santa Catarina Ixtepeji and Santa María Yavesía. For eight months during 2002, I spent many long but gratifying hours discussing forestry politics and practices with community residents. They invited me into their communities, and allowed me to observe their daily activities and suffer my interminable questions. I especially thank those who took their precious time - sometimes days - to be interviewed. Many took me for hikes among the cloud-shrouded pine-oak forests or accompanied me on winding roads of the Sierra Norte mountains. Some took me into their homes and gave me delicious food and drink, even though little was proffered in return. I also had the fortune to share some of their victories, such as when both communities were awarded the World Wildlife Fund's "Gift to the Earth," and took part in many family and community celebrations. Many of those interviewed went out of their way to spend an hour or so with me, perhaps coming to my apartment in Oaxaca City or allowing me to record them while "on the road," often literally. In particular, Ron Mader of Planeta.com fame deserves warm thanks for the many hours spent discussing forestry, tourism, democracy, rugby, Oaxacan fiestas, and all things Canadian.

It was to my immense pleasure that, during August 2000, I was able to return and share key results with my contacts. This visit would not have been possible without the generous support of University of Alberta International (UAI) and the Department of Rural Economy at the University of Alberta through a FSIDA grant (Fund for Support of International Development Activities). This partially fulfilled my commitment to many of the communities, agencies, and individuals involved with this research, and of whom I promised that one day I would return. My sincere hope is that this trip will provide those I met in Mexico with a better understanding of my study. I also hope that this effort will encourage other social science researchers at the University of Alberta to return to their study sites and present their results.

Many staff and students at the Department of Rural Economy were supportive of my studies since the beginning of September 2000. In particular, my supervisor Dr. Debra Davidson deserves my heartfelt gratitude for all her excellent advice and constant encouragement throughout my dissertation studies. The rest of my original dissertation committee was comprised of Drs. Nancy Gibson, Naomi Krogman, Fred Judson, and Michele Veeman. I had many rewarding conversations with all of them during a four-year span, and their mentorship helped to shape and guide this research. Dr. Maureen Reed (External Examiner) of the University of Saskatchewan and Dr. Ellen Goddard (Chair) were a key part of my oral defense committee, and likewise gave useful advice. Dr. Saram, Professor Emeritus at the University of Alberta, while not an official part of my dissertation committee, provided collegial friendship and suggestions for improvement since the early stages of my research. Dr. Bruce Dancik and Dr. Peter Blenis of the Department of Renewable Resources at the University of Alberta, former professors during my undergrad years in forestry, always had time for a chat and often provided useful advice.

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I especially thank my family for their undiminished support over the past four years. My late father, Bill Mitchell, would have been proud of my many accomplishments along the way. My mother Alice has always been supportive of my efforts - thanks Mom! Above all, my lovely wife Martha helped translate my interview transcripts, documents, presentations, and research papers, and drew the maps using an AutoCAD program. More importantly, she was my most valuable critic and was a constant source of inspiration. It was her encouragement that led to my entering the doctoral program in Rural Sociology in 2000. My lively and inquisitive children, Shirae and Ryan, were valuable research accomplices when they came to Mexico with their mom during the summer of 2002. My mother-in-law, Susy Barrantes, joined us from Peru for a few weeks. They all travelled with me to the field on various occasions. Many a day saw Shirae and Ryan marvelling strange insects, sampling new foods (fried crickets excepted!), or feeding farm animals, and community residents were enthralled with their enthusiasm and curiosity. We are truly blessed to have shared a short but exciting part of our lives together in perhaps the most beautiful region of Mexico.

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CHAPTER 1: INTRODUCTION

This research entails a study of local environmental activism and management in natural resource-based communities of southern Mexico. Rapid global changes and associated shifts in national and transnational policies have had a tremendous impact on those communities reliant on natural resources. Yet residents of these regions are often the furthest removed from national and transnational political processes. Local residents often have little participation or control in vital policy decisions that eventually affect their region. Moreover, researchers often treat rural communities as passive victims rather than legitimate stakeholders capable of properly managing their environments. Inadequate research exists on the varying degrees of resistance expressed by rural communities and their subsequent actions for democratic, environmental management.

THEORIZING ECOLOGICAL DEMOCRACY

The potential for natural resource regime sustainability in a global economy remains unclear. Greater knowledge is needed to devise appropriate management plans and policies for natural resource use - including fisheries, agriculture, forestry, and mining - that would guarantee the maintenance of ecological health, and help strengthen democratic processes (Cortner 2000; Nowotny, Scott, and Gibbons 2001; Robertson and Hull 2001; Torgerson 1999; Walker and Daniels 2001). Furthermore, scant attention has been paid to indigenous-based or other minority or alternative forms of knowledge which may complement, if not replace, scientific insight (Berkes 1999; Carruthers 2001; Dove 2003).

Understanding complex ecological systems is limited by the bureaucratic capacity of regulatory institutions to apply extant knowledge, which is often further complicated by repressive or authoritative regimes. Environmental policy has a poor record of successful implementation even in the United States (Vogel and Kessler 1998), with few signs for improvement in the near future. Furthermore, there is no guarantee that improved implementation of natural resource policy regimes would result from increased knowledge and adequate bureaucratic capacity. Rather, highly competitive "global economies provide greater incentives for maximizing short-term gains than for long-term sustainability of resource supplies" (Davidson and Mitchell 2002:274).

As a result of perceived environmental crises, neoliberal market expansion into developing nations, and the failure of government agencies to adequately address these challenges, local or regional responses to perceived social and environmental injustices have emerged in many countries. Such responses are increasingly finding support from powerful international environmental organizations, such as Greenpeace and the World Wildlife Fund. Paralleling the growing amount and influence of environmental activism, societal concern for the environment has been consistently high since the 1970s, even among those social actors not expected to express such concern. While early assessments of the modern environmental movement characterized the majority of supporters as members of the so-called post-materialist or "new class" groups in industrialized countries, this is no longer the case (Mertig and Dunlap 2001; Rucht 1999). Recent survey work shows that expressed concern for global environmental issues in developing countries is just as high as those in developed countries, and possibly even higher for local environmental issues (Brechin 1999). Several new collaborative organizations that focus on localized socio-environmental threats have been gaining civic support in developing nations such as Mexico (Hebert 2003). The *Zapatista* rebellion in Chiapas that began in 1994 is one well-known example of a mobilized response to the anticipated local impacts of trade expansion (Harvey 1998; 1999; O'Brien 1998; Stephen 1998).

Given the above considerations, a certain degree of dynamism between ecology and democracy seems to exist, suggesting we pay closer attention to this relationship. One line of theoretical reasoning relevant here may be "ecological democracy" - a concept that entails, or demands, participatory and ecologically sensible forms of environmental decision-making. Although the general nature of democracy and environmental interactions has been the source of recent academic debate (e.g., Dryzek 1996c; Lafferty and Meadowcroft 1996; Morrison 1995), the construct of ecological democracy has yet to be operationalized to any significant extent, let alone articulated as such in mainstream academic or professional circles. An appropriate research framework is still lacking for joint consideration of ecology and democracy.

At least three shortcomings can be noted. First, empirical evidence to corroborate any relationship between ecology and democracy is largely absent from sophisticated analyses (one unpublished exception is Dietz, York, and Rosa 2001). Second, where some evidence can be found, it tends to be non-systematic and scattered throughout an incredibly diverse literature - from ecoMarxism to civic environmentalism (e.g., Dryzek 1996c; Faber 1998; Lafferty and Meadowcroft 1996; Mason 1999; Morrison 1995; Shutkin 2000). Third, existing research has generally centred on developed nations (e.g., Morrison 1995; Shutkin 2000), ignoring the unique perspective of developing countries and their peoples, including indigenous groups. More empirically focused research is needed on the concept and applicability of ecological democracy.

RESEARCH RATIONALE: THE CASE OF MEXICO

This research posits that society's ability to counteract the negative environmental implications of certain global forces may depend on opportunities for the emergence of ecological democracy. Since resource-dependent regions have a dual role of providing raw materials that drive economic productivity, while playing an integral role in global ecological health, they represent a valuable litmus test for the long-term viability of neoliberal regimes, including associated regulatory policies of industrial trade. Opportunities for ecological democracy, on the other hand, are poorly understood. One way to examine the potential for ecological democracy is through a case study that concentrates on the relationships between local democratic processes (such as forms of participation, accessibility to power, and civic activism), distribution of economic benefits, environmental changes, land tenure systems, and other potential indicators.

Ecological democracy may be manifest in particular ways in developing nations marked by political, socio-cultural, and ecological extremes. In Mexico, for instance, such extremes include collective, mestizo, indigenous, and individual notions of democracy, rights, and freedoms, and political activism, along with severely stressed environments and highly diverse ecosystems. Mexican politics range from authoritarianism, clientelism, and corruption (Ai Camp 1999; Fox 1994; Krauze 1997; Toledo 1998) to innovative forms of indigenous autonomy, self-determination, and citizenship (Beaucage 1998; Díaz Polanco 1997; Harvey 1999; Yashar 1999). Mexican environmental conditions include severely polluted border areas of the north (Frey 2003;

Roberts and Thanos 2003), contaminated urban centres (Schteingart 1989; Simonian 1995), and deforested areas of the Lacandona rainforest and other areas (Arizpe, Paz, and Velázquez 1996; Bray 1991; Jaffee 1997; Manuel Torres-Rojo and Flores-Xolocotzi 2001; O'Brien 1998).

Conceptions of democracy may differ widely among citizens in developing countries. Whereas Western countries tend to focus on the workplace as a site of power and material success, the adult population in developing countries such as Mexico is often comprised of peasants, artisans, women engaged in domestic labour for themselves or someone else, or unemployed altogether (Kaufman 1997:10). For such vulnerable individuals and others, such as isolated indigenous peoples, democracy may be just securing the right to mobilize without fear of reprisal. It is likely that, under such conditions, democracy may emerge through contextually localized cultural and historical forms - especially indigenous peoples' sense of identity and solidarity (Bonfil Batalla 1996; Cohen 1999).

Environment, too, may be conceived differently in Mexico where so many rural people depend on their natural resources for subsistence and livelihoods. Key questions may revolve around not only how to protect biodiversity, but also how to manage it through an equitable, sustainable development approach. In Mexico, the state of Oaxaca stands out among several timber-producing states by the prevalence of indigenous communities actively pursuing social-economically and environmentally sustainable forestry. Such achievements have stemmed from years of activism against corporate logging concessionaires accused of carrying out unfavourable silvicultural practices while providing few, if any, social benefits (Arizpe, Paz, and Velázquez 1996; Bray 1991; Bray et al. 2003; Bray and Wexler 1996; Klooster 2000). Today, the importance of community forestry in Mexico is unique with an estimated 80% of the nation's forests communally held (Bray and Wexler 1996). Mexican common forest property arrangements have been discussed at some length in the literature (e.g., Alatorre Frenk 2000; Bray and Merino-Pérez 2002; Taylor 2000), but have been inadequately studied from the perspective of perceived or actual democratic and environmental benefits. This unique nexus of indigenous politics and threatened/sustainably-managed environments makes for an appealing case study of ecological democracy in Mexico.

RESEARCH QUESTIONS

This dissertation research is guided by one paramount question: *What is the nature of those forms and processes through which ecological democracy emerges*? Given the broad nature of this question, four suppositions are provided here for greater clarification:

1. Certain combinations of hindering and facilitating factors affect the emergence of ecological democracy.
2. Recent changes in resource management regimes due to domestic and international policy have simultaneously affected the quality of life and environment of resource-dependent communities and their residents.
3. Local political mobilization can occur in response to changes in the resource management regime imposed by the aforementioned policies.
4. For a given set of historical-cultural-political preconditions, community-based resource management offers democratic and environmentally sustainable alternatives for indigenous peoples.

To examine ecological democracy and its possible variants, a comparative case study was determined to offer the best approach, given the exploratory nature of this research topic and its aforementioned suppositions. Field research on selected forest-dependent communities of Oaxaca, Mexico was conducted from May through December 2002. By "forest-dependent," I refer to those communities with a combined social and economic dependence on forestry resources. The majority of the data analysis was carried out in Edmonton at the University of Alberta from January to December 2003, and the following months dedicated to writing the various chapters of this thesis. Empirically testable questions that converge on the four suppositions helped to answer the primary research question. Relevant research chapters that address these questions and suppositions are discussed in the following section.

DISSERTATION CHAPTERS

This research is comprised of three interrelated chapters along with this Introduction and a Conclusion, for a total of five chapters. One additional paper has been included as Appendix 1, which is a reflection on my field research methodologies; in particular, how rapport was established and relationships built (or not) with various respondents, agencies, and communities. Starting with Chapter 2, the chapters have been purposely arranged from the theoretical to the empirical, although each chapter has elements of both. The unifying concept is the nexus between environmental impacts or actions and local decision-making. Each chapter focuses on Mexico as a case example, particularly on community forestry of the Sierra Norte of Oaxaca in the southeastern part of the country. Various theoretical aspects of ecological democracy are first explored in Chapter 2, with two cases provided for comparative purposes. This discussion and associated empirical findings set the stage for Chapters 3 and 4, with my research methodologies most thoroughly explained in Chapter 4 and Appendix 1.

CHAPTER 2: EXAMINING ECOLOGICAL DEMOCRACY

Chapter 2, "Green Politics or Environmental Blues? Examining Ecological Democracy," builds a theoretical background for ecological democracy based on relevant literature, and supplemented by empirical data from Mexico. It contributes to a better understanding of ecological democracy that is both theoretically developed and empirically tested.

Unlike previous efforts that have often discussed ecological forms of democracy in vague or esoteric terms, this chapter elucidates what may affect the realization of ecological democracy. In the first section, ecological democracy is defined as an alternative democratic model that 1) strives to incorporate interested citizens into environmental decision-making, and 2) lacks structural features that systematically concentrate environmental amenities into the hands of particular social groups, while imposing environmental and ecological degradation on others. Next, four idealized scenarios are examined that illustrate various transitional states of ecological democracy, which are Scenario A: The Optimist, Scenario B: The Ecocrat, Scenario C: The Democrat, and Scenario D: The Status Quo. These range from environmentally beneficial and democratic decision-making to market-driven choices that cause environmental degradation and widened equity gaps. These scenarios lead to a discussion of several hindering and facilitating factors that either thwart or encourage ecological democracy. The former include international capital, closed democratic systems, the premise of equality of conditions, scientific prioritization, and ineffective or nonexistent mediating structures that serve as a conduit for democracy; the latter include environmental altruism, discursive democracy, perceptions of environmental crisis, local-global networks, and cultures supportive of participatory democracy. Two examples in support of this discussion on ecological democracy are provided: in the first case, border contamination due to heavy industrial use along the U.S.-Mexican border, and in the second case, community forestry in the south-eastern state of Oaxaca.

CHAPTER 3: SUSTAINABLE COMMUNITY FORESTRY IN MEXICO

Chapter 3, "Planting Trees, Building Democracy: Sustainable Community Forestry in Mexico," while linked to the concept of ecological democracy, focuses more specifically on common property theory and application. Democracy and trade policies are treated as key themes from which to examine common property institutional arrangements among indigenous forest-dependent communities. Local governance and environmental decision-making pertaining to indigenous forestry are discussed, along with their unique systems of land tenure and cooperative mechanisms.

In addition to land tenure issues, this chapter also looks at environmental trade policy and the changing regulatory frameworks for forest management in Mexico. The case made is that despite intense political-economic change brought on by global processes and national responses, which have opened trade borders and changed regulatory regimes, communal mobilization for local forest management can be successful for distinct reasons. These explanations may be contrary to Hardin's "tragedy of the commons" theoretical arguments. By concentrating on the natural resource management and trade regime inherent to Mexico and Oaxaca, this chapter provides greater case study detail than the previous one. It also sets the stage for the following chapter, along with the theoretical arguments for ecological democracy outlined in the first.

CHAPTER 4: ECOLOGICAL DEMOCRACY IN MEXICO'S FORESTS

Chapter 4, "Politics in the Woods: Ecological Democracy in Mexico's Forests," is perhaps the most empirical of the chapters with explicit attention paid to the relevant findings from the field. The two main municipalities examined and discussed are Santa Catarina Ixtepeji and Santa María Yavesía, both located in the Sierra Norte mountains and pine-oak forests north of Oaxaca City. Comparing Ixtepeji and Yavesía helps to extend ecological democracy thought in this comparative case study by linking empirical findings to ecological/political theory and community forestry literature. In particular, key theoretical components such as justice, equality, local mobilization, ecological awareness, and environmental health are analyzed. Primary attention is given to semi-structured interviews and participant observation, and supplemented by key secondary data such as community records, government documents, newspaper articles, and associated research by other scholars.

APPENDIX 1: A METHODOLOGICAL ACCOUNT OF A FOREST SOCIOLOGIST IN MEXICO

Appendix 1, "Trees don't Talk: A Methodological Account of a Forest Sociologist in Mexico," is a personalized account of the methodological approach employed in my research.[1] Such personal accounts are missing from much field research. While ecological democracy is not discussed, the relevance of this chapter is the extensive discussion of ones' strengths and weaknesses that may impact methodological choices, host perceptions, and research findings. This self-reflective and self-critical piece examines my dualistic role as a forester and sociologist collecting data in Oaxaca. In short, it speaks of challenges faced as a researcher having various identifying characteristics (e.g., foreigner, white, male, forester, sociologist) that worked either to my favour or disfavour. It also speaks of various roles that individuals assigned to me, how rapport was built and entry gained (or not), and other crucial methodological concerns.

---

[1] A version of this Appendix has been published. Mitchell, Ross E. 2004. "Trees don't Talk: A Methodological Account of a Forest Sociologist in Mexico." *Sociological Research Online* 9(1). Electronic article located at http://www.socresonline.org.uk/9/1/mitchell.html.

RESEARCH METHODOLOGY

A full account of my research methodology used in this dissertation is provided in Chapter 4. In brief, the research project design was a comparative case study that made use of both qualitative and quantitative data, using a non-probability sample. Two communities of the Sierra North of Oaxaca were selected for cross-comparison: Santa Catarina Ixtepeji and Santa María Yavesía. Research time was divided among Ixtepeji, Yavesía, and Oaxaca City, with some interviews held in Mexico City. Data collection techniques included collection of secondary information, participant observation, attendance at conferences and roundtable discussions, and personal semi-structured interviews. From May to December during 2002, I conducted a total of 51 interviews, with 45 held in Spanish and six held in English. Most interviewees had some understanding of forest management and/or Oaxacan community politics. Participant observation activities included planting trees, helping in forest inspections, attending community forestry meetings, and talking with community residents and outsiders (e.g., tourists, researchers, government officials). Additional data collected included newspaper clippings, maps, civic or communal documents, books, and videos. Several visits to other forestry communities in Oaxaca were also carried out for comparative purposes.

INTERVIEW PROCEDURES AND CONFIDENTIALITY

In March of 2002, an application was made pertaining to this research to the Human Ethics Review Board of the Faculty of Agriculture, Forestry, and Home Economics at the University of Alberta. All necessary revisions were made and final approval granted in April 2002. All persons, communities, agencies, and institutions directly involved in any aspect of this research were informed of its purpose, objectives, design, and intended use of the results.

Each interview participant was purposively selected as either a resident or non-resident and his/her participation elicited on a voluntary basis. For a resident participant to be eligible to be interviewed, he/she must have lived for at least 10 years in one of the two forest-dependent communities selected for this research and had to be at least 18 years of age. Participants were contacted either through introduction with key contacts, or approached in public meetings, at their place of work, or at a private residence. Knocking on doors of households was occasionally necessary in attempts to interviewee "minority" or "silent" participants, such as women or retired individuals.

Each participant was handed an Information Sheet in the main language of participant at the time of initial contact, explaining 1) the rationale for undertaking this research, 2) methodological concerns, 3) of what benefit, if any, the research will accrue to the communities, agencies, and other supporting individuals or institutions, 4) any possible risk to the participant, and 5) that any information obtained of a personal or private nature would be kept confidential and anonymous in a safe location by the Principal Investigator for a period of no more than five years. Any individual who agreed to participate in the interviewee was required to sign a Consent Form. In most cases, another individual, if available, witnessed the interview by signing the form as well. While all interviewees signed this form, and most indicated by signature their willingness to be identified in any publication related to this research, it was later decided to omit any direct reference to interviewee names or other identifying features (beyond their general professional interest and place of residence) to protect their confidentiality. The interview was then conducted using a Guide to structure the questions, and adapted as required (see Appendix 2). Most interviews were audiotaped and each tape was labelled by number rather than by name to protect confidentiality.

RETURN VISIT TO OAXACA

During August 2004, I returned to Mexico where I participated in the Tenth Biennial Conference of the IASCP (International Association of the Study of Common Property) in Oaxaca. In Mexico City and Oaxaca, I visited various agencies and individuals to present a draft copy of Chapter 4 of this thesis, which had been previously translated into Spanish. I then travelled to Ixtepeji and Yavesía and spoke with many community leaders and residents I had met in 2002. I gave both group and individual presentations of my main findings. In total, 37 of my original interviewees and many other contacts were provided with a copy of Chapter 4 during this visit. I also visited the Sierra Sur, another forested region in the southern part of Oaxaca, and observed a communal assembly in San Andrés El Alto where new forest administrators were being elected. It is rare for an outsider to be allowed to attend these assemblies. By doing so, I was able to draw some comparisons to the Sierra Norte.

Most interviewees seemed quite pleased with the findings, even though some results were not always favourable. Some useful suggestions were made to incorporate into this final version. One indication of success from this visit is shown in a September 8, 2004 e-mail sent by a Yavesía leader, who says that they were quite pleased with my visit to their community and the paper (Chapter 4) in Spanish that was distributed to them. They are also looking forward to receiving a copy of my thesis, which I will be sending (as well as to the other community). A partial quote from this message is translated from Spanish as follows:

> "Your paper seems quite good [although] we understand it's only part of your thesis. … We would like to have your entire thesis, even if in English or French. [We] hope to maintain contact and friendship with you." (Yavesía community leader)

I also updated my contact information to send a copy of my thesis to the two communities studied, as well as to the offices of the National Forestry Commission (CONAFOR), the Ministry of Environment and Natural Resources (SEMARNAT), and the World Wildlife Fund (WWF) in Oaxaca. Additionally, I was interviewed for the Oaxaca state newspaper *Noticias* and a full-page article based on this interview was published on August 22, 2004 ("Democracia Ecológica," p. 16A). In sum, this mission allowed me to fulfill promises made that I would return one day to present my findings.

CHAPTER 2: GREEN POLITICS OR ENVIRONMENTAL BLUES? RECONCILING ECOLOGICAL DEMOCRACY

INTRODUCTION

Democracy has unquestionably achieved much during the past century around the globe.[2] Yet these political triumphs have mostly benefited privileged social sectors and wealthy nation-states (Dryzek 1996a; Korten 1995). According to many observers, neoliberal institutional arrangements have encouraged environmental degradation, shifting social and environmental costs to marginalized peoples (Barndt 1999; Boyce 1994; Hill 2001; Morton 2000; Obi 2000; Stephen 2001; Williams 1998). Existing democratic institutions, moreover, have done little to stem the spread of environmental crises such as global warming, severe water scarcities, urban smog, unchecked deforestation, and escalating species extinctions (Beck 1999; Bunker 1985; Lafferty and Meadowcroft 1996). Liberal democracies and their associated governance mechanisms have also been ineffective at instilling participatory forms of decision-making (Dryzek 1992).

Such challenges have led to calls for ecological and civic renewal, and a myriad of terms to describe various "green" political arrangements to achieve these aims. Ecological modernization and sustainable development have become dominant paradigms in these debates (Daly and Cobb 1989; Novek and Kampen 1992; Spaargaren and Mol 1992). Yet these theories tend to evoke technocratic or ecocratic forms of environmental governance that, according to some critics, simply prescribes business as usual with a green tint (Greer and Bruno 1996; MacKendrick 2003; Tokar 1997). In contrast, the concept of "ecological democracy" evokes participatory governance centred on healthy environments, social justice, and vigorous citizenship. However, given its similarity to related terms (e.g., political ecology, civic environmentalism, environmental justice), and lacking sufficient evidence to assess its utility, a sounder conceptualization of ecological democracy is seriously needed. This is not to suggest that these other terms are in competition with the notion of ecological democracy. However, the latter brings attention to democratic aspects of environmental governance such as deliberative communication, transparency, justice, equality, and citizenship. These features may not be considered to same degree by related terms. Still, fields of study such as ecofeminism and ecoMarxism may better address particular aspects of democracy and the environment.

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[2] Electoral democracies now represent 120 of 192 existing countries and constitute 58.2% of the world's population. This proportion corresponds to 3.4 billion people in the year 2000. For further details, see "Democracy's Century: A Survey of Global Political Change in the 20th Century" at http://www.freedomhouse.org/reports/century.html.

This paper builds upon existing theory for the purposes of practical application and future empirical research on ecological democracy. In the first section, a working definition of ecological democracy is provided with four different scenarios. This is followed by a discussion of several hindering and facilitating factors that either thwart or support ecological democracy. In the second section, empirical examples from Mexico illustrate two key facets of ecological democracy: social justice and environmental management. It is concluded that this effort will lead to a better conceptualization of ecological democracy for continued research and policymaking.

CONCEPTUALIZING ECOLOGICAL DEMOCRACY

While still in its infancy, a handful of distinct insights have begun to take shape within the expanding body of scholarship that jointly examines environmental and political relationships. Supporting the contention that democratic environmental governance is possible, substantial writings on environmental politics and citizenship have been published in recent years (e.g., Dryzek 1997; Faber 1998; Mason 1999; Morrison 1995; Shutkin 2000; Torgerson 1999). For example, a growing body of work has emerged in the past two decades on political ecology, or the specific attempt to bring together the fields of cultural ecology and political economy (Adger et al. 2001; Burns and LeMoyne 2001; Dryzek 1996b; Dryzek 1997; Villanueva 1995). Additionally, at least one journal volume devotes significant attention to the subject of ecological forms of democracy, or vice-versa.[3]

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[3] The journal volume referred to here is *Environmental Politics* 4(4), 1995.

One view of political ecology includes criticism of existing political structures, and the conceptual development of alternative forms. Dominant political arrangements in the Western world - including capitalism, liberal democracy, and the administrative state - are believed to be grossly insufficient when it comes to addressing complex ecological problems (Dryzek 1992; Morrison 1995). This has led to a discourse of "green radicalism," which rejects the basic structure of industrial society and the way the environment is conceptualized, but promotes instead radical transformation in human awareness, economics, and politics (Dryzek 1997).

Some scholars urge the replacement of these hegemonic economic and political arrangements with "autonomous public spheres," or discursive spaces in which diverse participants can "rationally" engage in democratic debate (Dryzek 1992). These spheres may take the form of "analytical deliberative strategies" (Alario 2000), in which concerned citizens would have opportunities to participate in setting environmental policy by joining the efforts of scientists and government officials. Furthermore, the development of a green public sphere is premised upon an ecologically motivated citizenship, or "civic environmentalism," whereby citizens assume a strong sense of civic responsibility for developing local solutions to environmental problems (Shutkin 2000).

Another context in which the tension between environment and democracy is highlighted includes the numerous instances of political reaction to the inequitable distribution of environmental ills. The concentration of pollution and its impacts in certain neighbourhoods and among certain groups, particularly women and minorities (Bullard 1993; Cole and Foster 2001; Melosi 1997; Szasz 1994), as well as rapid resource development in newly industrializing regions with lax environmental standards (Fritz 1999), have given rise to locally based, ecologically democratic initiatives. The environmental justice movement, in particular, has been treated with tremendous optimism for its potential to reform environmental politics in a manner that prioritizes social welfare and democratic decision-making (Capek 1993; Martinez-Alier 2000). The response by many communities to perceptions of environmental injustices may represent an avenue for the re-invigoration of, and the formation of new modes of exercise for, participatory democracy in modern social systems.

On the other hand, it remains uncertain if green public spheres could function well enough to engage citizens in environmental governance, or whether "grassroots" forms of mobilization or activism could be a better vehicle for ecologically motivated citizens. Good grounds exist for the widespread disbelief that democracy could solve environmental problems, or that environmental crises could enhance democratic arrangements. Some of these reasons include environmental inequalities, inadequate opportunities for democratic engagement, and misguided mainstream environmentalism.

First, the rather undemocratic distribution of environmental amenities across the landscape renders the equality of environmental conditions impossible or highly unlikely, even at a local level (Boyce 1994; Bunker 1985; Redclift and Sage 1998; Schrecker 2002; Vilas 1997). Generally, those actors with the greatest access to power are best able to control and influence natural resource decisions in their favour (Peet and Watts 1996). To combat these undemocratic and unequal circumstances, ideal socio-political arrangements would favour environmental "goods" for all citizens while eliminating environmental "bads," and allow for vigorous, democratic renewal. However, this scenario is unlikely given most of the world's relentless push for economic growth (Daly and Cobb 1989; Korten 1995).

Second, adequate opportunities for meaningful public input and discussion in environmental management are still mostly limited, even in many democratic countries (Cortner 2000; Robertson and Hull 2001). Modern technocracies limit public involvement in setting environmental agendas and policies (Beck 1995). Public discourse is often sacrificed by administrative operations of environmental agencies in the name of efficiency. Limits to democratic participation are often enforced indirectly, such as through job blackmail (Kazis and Grossman 1982), or the exclusion of the grievances of local populations in decision-making within national level institutions (Molotch 1970). More commonly, "[p]oor people and poor nations are given a false choice of 'no jobs and no development' versus 'risky, low-paying jobs and pollution'" (Bullard and Johnson 2000:574).

Third, the mainstream environmental movement, which has achieved much in raising public environmental consciousness and passing environmental policies through state legislatures worldwide (Dreiling and Wolf 2001), has often fallen short of expectations.

Mainstream environmentalists have been criticized for failing to prioritize their goals as various social movements such as the gay rights and women's movements have done (Burns and LeMoyne 2001), and for having conspicuously ignored environmental injustice (Torgerson 1999). Many environmentalists communicate poorly with, for instance, those who suffer negative effects of industrial pollution in urban areas, or who lose their jobs when resource extraction or processing companies shut down and shift operations elsewhere. Indeed, "much of the environmental movement has been slow to draw the connections between an unhealthy environment and conditions on the job (where the work process for labor is almost completely undemocratic and hidden from public view)" (Faber 1998:6). Mainstream environmentalism tends to focus on the preservation of natural environments over the cleanup of contaminated neighbourhoods where people live and work (Cable and Cable 1995; Shutkin 2000). Until recently, social aspects involving such issues as poverty or racism have been generally devalued or entirely lacking in the mainstream environmental arena (Cole and Foster 2001).

In contrast to these weaknesses described above, some evidence is mounting that progressive democratic institutions can help resolve environmental problems and encourage sustainability (Buell and DeLuca 1996; Lafferty and Meadowcroft 1996; Mason 1999; Torgerson 1999). For example, the readiness of many industrialized countries to enact and enforce tough environmental legislation is a sign of environmentally committed citizenry and nation-states. Other notable actions include the 1987 Brundtland Commission (also known as the World Commission on Environment and Development, or WCED), the 1992 Rio Summit on the United Nations Conference on Environment and Development (UNCED), and the 2002 World Summit on Sustainable Development (WSSD) in Johannesburg. Although they did little to stem global environmental deterioration or readdress global inequalities (Redclift and Sage 1998), these forums generated global awareness on societal-environmental connections.

While environmental governance theorists, including political ecologists, ecofeminists, and environmental justice advocates, are largely optimistic of the potential for more appropriate environmental decision-making arenas, several words of caution have been put forth. First, if environmental decision-making practices are both ideally and realistically more appropriate within autonomous, local, decentralized institutional networks (Morrison 1995; Shutkin 2000), what is the likelihood for the development of a global "civic environmentalism," given the diversity of local social systems (Archibugi and Held 1995)? Will such units be appropriate to addressing global environmental problems, particularly when management priorities from a global ecological perspective may well run counter to local concerns (Shiva 1993)? Second, what guarantees do we have that democratic outcomes will be ecologically sound, and vice versa (Arias-Maldonado 2000)? Third, how likely is it that an ecologically democratic societal structure will emerge from within existing dominant political structures, premised on dualistic, hierarchical, and centralistic thought (Bookchin 1982)? For centuries, human society has been subjugated to Cornucopian and Promethean tendencies that relegate nature to "natural resources" and presume that human ingenuity will prevail over any deficiencies or abuses (Dryzek 1997). This way of thinking continues to drive our global political economy as described earlier. Fourth, given that the multifarious and ambiguous nature of terms such as "democratic participation" and "sustainable development" can in themselves be contested concepts (Dryzek 1992:36; Faber 1998), what is the likelihood for the multiple manifestations of ecological democracy to all lead toward ecologically sound decisions? Finally, given the complexity of many environmental issues, how do we maintain democratic decision-making when scientific expertise is paramount? Such environmental decision-making arenas have been described as "authoritarian technocracies," in which questions of technological change remain beyond the reach of political or parliamentary decision-making, a situation that perpetuates itself as citizens lose confidence in their ability to make personal judgements (Beck 1999).

Since the relevant literature appears far from resolving these tensions and commonalities inherent to environment and democracy, this synopsis demonstrates that a more explicit definition of the concept of ecological democracy is needed. From this conceptual base, we can then take up the challenge of attempting to measure or evaluate it, or least being able to recognize when and where it is occurring.

This conceptual paper is supplemented with illustrations from two cases, one drawn entirely from secondary sources, the other from primary fieldwork conducted by the author during 2002. The original research project design was a comparative case study that made use of qualitative and quantitative data with a non-probability sample.

Two communities of the Sierra Norte of Oaxaca were selected for cross-comparison: Santa Catarina Ixtepeji and Santa María Yavesía. However, for the purposes of this paper, the communities of the Sierra Norte are discussed together given their similarities on the selected factors discussed below.

ECOLOGICAL DEMOCRACY DEFINED

The notion of ecological democracy is often marked by definitional ambiguity and inadequate empirical evidence. Related terms such as "public ecology" (Robertson and Hull 2001), "civic environmentalism" (Shutkin 2000), and "liberation ecologies" (Peet and Watts 1996), appear to also suffer these weaknesses, or may be overly prescriptive for constructive theoretical and empirical analysis. Some authors frame this discourse in specialized contexts such as ecofeminism (Gaard 1998; Mies and Shiva 1993) and ecoradicalism (Luke 1999), both streams of literature which have been widely studied and theorized.

These focused perspectives suffer certain limitations when compared to the more encompassing concept of "democracy," a central theme in sociology and political science. Democracy is a term that incorporates such diverse areas as social movements, electoral processes, civil rights (and obligations), equality, and participatory or representative governance. Yet, its attainment or existence is contested terrain (e.g., La Botz 1995; Young 2000). Even if "true" democracy exists, there may be several models or degrees of democracy (Held 1996).

For this research, I chose ecological democracy as a conceptual tool given the wide applicability yet often imprecise notion of *democratic* forms and processes related to the environment. Bringing democracy directly into the equation unpacks a rich theoretical and empirically measurable body of literature from the vantage of multiple scales, positions, and actors to interested researchers. It is my contention that the study and application of democracy might be the key to future environmental management. Still, few examples exist where ecological democracy has been empirically tested (cf., Dietz, York, and Rosa 2001). Moreover, key factors that may hinder or facilitate its attainment need better elucidation if the concept is able to serve any practical use or serve to research.

What, then, is ecological democracy? According to one definition, which frames it as the "principles" of ecological democracy,

> "communities of people suffering ecological injustices must be afforded greater participation in the decision-making processes of capitalist industry and the state (at all levels), as well as the environmental movement itself, if the social and ecological problems plaguing *all* Americans are ever to be resolved." (Faber 1998:1; original emphasis)

While helpful, this explanation of ecological democracy focuses on claims for environmental justice against the hegemonic relations of neoliberal capitalism. It is normative and prescriptive rather than theoretical or empirical. It downplays the practicalities required of environmental decision-making, including deliberative, procedural, and regulatory mechanisms. Most importantly, it lacks any reference to empirically measurable criteria.

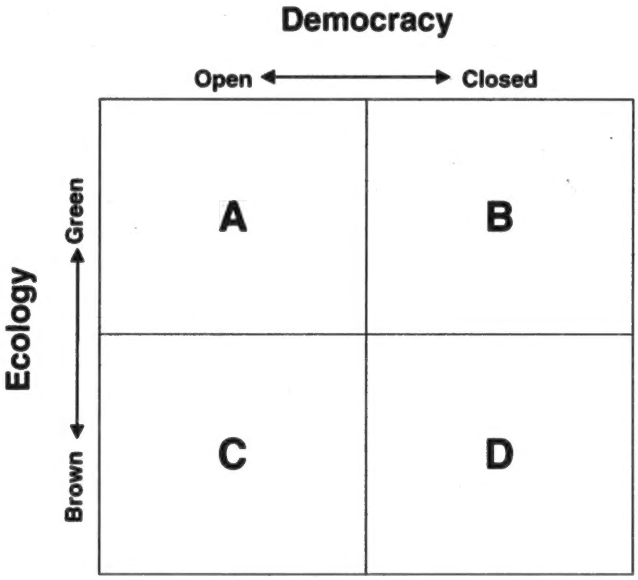
A more integrated version of ecological democracy would consider both participatory environmental management and social justice approaches from a variety of perspectives and positions. It would also outline an empirically measurable framework with appropriate indicators or features that could be tested, compared, and adapted to any given scenario involving environmental governance/justice (or lack thereof). Its utility as a concept lies in its empirical potential.

Thus, for the purposes of this paper ecological democracy is defined as an alternative democratic model that 1) strives to incorporate interested citizens into environmental decision-making, and 2) lacks structural features that systematically concentrate environmental amenities into the hands of particular social groups, while imposing environmental and ecological degradation on others. Ecological democracy appears whenever citizens are freely incorporated into inclusive environmental decision-making - or, at minimum, those desiring to participate are provided with meaningful opportunities to do so, and their input well considered. Moreover, environmental "bads" such as industrial pollution and rampant deforestation would not be passed on to any specific group. Still, certain types of environmental uncertainties or injustices go beyond rational, deliberative debate. Ideally, both techno-scientific and alternative forms of knowledge and experience would be encouraged, as well as adequate space provided for citizen activism and legal-political avenues. In sum, ecological democracy is premised on the hypothesis that environmental improvement is positively associated with the presence of participatory democratic institutions, and the future health of existing democracies are premised upon the equitable distribution of environmental resources.

SCENARIOS OF ECOLOGICAL DEMOCRACY

Four potential states that illustrate various tensions and commonalities of ecological democracy are presented in Figure 2-1. Democracy is simply categorized as "open" (democratic) or "closed" (autocratic), and ecology as "green" (sustainable) or "brown" (unsustainable). In reality, many dynamic grey areas will overlap boundaries, even within a given situation with its varying ideological, locational, temporal, moral, or other circumstances. Still, these scenarios do serve as ideal types for the purposes of comparing or contrasting differing states of ecological democracy.

FIGURE 2-1. SCENARIOS OF ECOLOGICAL DEMOCRACY



Scenario A - The Optimist. This Win-Win scenario combines open democracy with green ecology, achieving the highest possible state of ecological democracy. Informed, inclusive, and participatory decision-making is successfully combined with environmental sustainability for the benefit of all. Participating citizens willingly compromise certain individual gains by deliberating together to promote social and ecological wellbeing. An example is a community-oriented forestry operation employing sustainable logging practices (e.g., selective cutting of poor quality trees using low-impact techniques and silvicultural practices that favour ecological health). Economic earnings are equitably shared and decisions made on a participatory, inclusive basis.

Scenario B - The Ecocrat. This Lose-Win scenario combines closed democracy with green ecology. Ecological wellbeing is achieved at the expense of democratic principles by invoking strict environmental and ecological protection policies detrimental to certain groups. Decision-making and management follow centralized, hierarchical avenues of control. An example is the removal of human inhabitants for the designation of a "wilderness" area. External concerns are prioritized over basic civil liberties of local residents, including the right for sustainable livelihoods.

Scenario C - The Democrat. This Win-Lose scenario combines open democracy with brown ecology. Citizens have full access to informed decision-making, but ecological wellbeing is not a priority. Substantial environmental degradation takes place by chance or design. An example is a community's decision to endorse a strip coalmine on an area of critical biological and watershed significance. While the process may have been open, inclusive, and consensual, this decision could have serious negative consequences for the local environment and those who rely upon its healthy functioning.

Scenario D - The Status Quo. This Lose-Lose scenario combines closed democracy with brown ecology. Entirely market-driven decision-making greatly expands environmental degradation. It complements and reinforces the neoliberal paradigm; namely, global market control driven by speculation, competition, and consumerism, but leading to worldwide environmental degradation. An industrializing nation that favours polluting, resource-intensive manufacturing for rapid economic growth serves as a prototypical example. Severe social costs and subsequent environmental deterioration accompany highly selective wealth. Hence, we end up with two "losers" (e.g., Boyce 1994).

"Scenario A" describes a truly successful ecological democracy, although the possibility may remain an idealistic dream under current circumstances. It encapsulates "robustness," or the idea that our expectations of society toward science and the environment are changing as people demand ever-greater involvement in democratic decision-making (Nowotny, Scott, and Gibbons 2001). A precautionary principle is adopted to minimize global warming and other environmental risks. Progressive environmental policies are implemented by strict enforcement of polluters and rewards proffered for clean industrial initiatives. Environmental degradation is not passed on to any specific group or individual, and local ecological management is highly encouraged.

In contrast, the "status quo" option represented by "Scenario D" more realistically defines current global conditions. Certain classes and places are privileged by a "privatized environment" policy, leading to an unequal distribution of health and environmental hazards (Schrecker 2002). Two promising changes are occurring, however. In some instances, progressive environmental agencies are trying innovative models that incorporate alternative forms of ecological knowledge, and even making some room for public involvement. In other cases, local or regional governments have adopted experimental cases of citizen-led governance. However, the former continues to allow environmental science to take the lead, whereas the latter encourages citizen involvement but may neglect "green" aspects. At minimum, such willingness to change suggests that some groups are perhaps steering towards "true" or an idealized version of ecological democracy.

HINDERING FACTORS

Several factors hinder the potential for ecological democracy. Five in particular include international capital, closed democratic systems, the premise of equality of conditions, scientific prioritization, and ineffective or nonexistent mediating structures that serve as a conduit for democracy.

First, international capital, development, and regulatory arrangements favour powerful interests (Dryzek 1996a; Hettne 1995), while concurrently shifting industry-generated environmental ills to weaker actors (Bullard 1993; Shrader-Frechette 2002), often with government complicity (Gould, Schnaiberg, and Weinberg 1996).

Furthermore, companies feeling "harassed" by environmentalists and tough environmental regulations, but blaming economic factors, may shift operations to less problematic countries with Export Processing Zones (EPZs) (Frey 2003).

Second, closed democratic systems are antithetical to ecological democracy by definition, but they may actually increase environmental impacts (Dietz, York, and Rosa 2001). For example, peripheral countries with high levels of political repression tend to be highly carbon intensive and their nation-states often assume less responsibility for environmental protection, presumably to keep production costs competitive (Roberts, Grimes, and Manale 2003).[4]

Third, institutionally imposed social inequities hinder the attainment of ecological democracy. With the publicity generated from Love Canal, Three Mile Island, Chernobyl, Bhopal, and other environmental crises, a burgeoning environmental justice movement has highlighted how racial, gender, and/or class differences are implicated in environmental inequities (Bullard and Johnson 2000; Kalof et al. 2002). Strong evidence of racially distributed pollution can be found in Louisiana's Cancer Alley, for instance (Roberts and Toffolon-Weiss 2001). Gender inequities that shift environmental ills to working and nursing women have been brought out in public light by the ecofeminism movement (de Chiro 1998; Gaard 1998; Mies and Shiva 1993). A class focus "helps reveal that workers in their workplaces and homes are more vulnerable to environmental hazards than the affluent" (Torgerson 1999:46), since the working class stand to lose a healthy existence and scarce jobs.

Fourth, current policies and programs prioritize scientific sources of information over alternative forms of knowledge. While specialized scientific and technological information helps policymakers, planners, and researchers understand complex technologies and ecosystems, this is hardly conducive to greater public involvement in environmental management. During the twentieth century, government and industry have given precedence to scientific solutions to address environmental challenges (Fischer 2000). Even environmental non-governmental organizations (NGOs) have relied on scientific findings, often hiring their own experts. In the process, technical and normative questions are often kept out of ordinary citizen's hands irrespective of their increased exposure to environmental risk (Beck 1995; 1999). Moreover, ecological democracy is impeded when science is used to increase production, consumption, and profits instead of understanding and reducing environmental impacts (Schnaiberg 1980). Alternative information sources such as indigenous, layperson, or local knowledge are often ignored or downgraded (e.g., Berkes 1999; Fischer 2000; Wiersum 2000). Lay or public knowledge is not necessarily truer, better, or greener (Wynne 1994). Still, in an age of risk and uncertainty, more input from diverse sources for scientific and technical assessments can only help improve decision-making. That is, if "improved" administration and governance is measured by fairness, transparency, accountability, robustness, and other "socio-cultural" variables (e.g., Bullard and Johnson 2000; Hull and Robinson 2000; Nowotny, Scott, and Gibbons 2001; Smith and McDonough 2001).

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[4] The authors measured political repression by political and civil freedom, the organized proportion of the labour force, and by per capita spending on the military.

Fifth, how current mediating structures perpetuate existing inequalities is particularly evident in environmental politics (Buttel 1998; Couto and Guthrie 1999; Price 1980). Mediating structures include non-profit sectors, civic associations, voluntary associations, and similar organized bodies. There are both positive and negative consequences attributable to mediating structures. On the one hand, such structures have been designed to intervene on behalf of the public, acting in our best interest. In regions such as Chiapas in southern Mexico, mediating structures have included supportive NGOs that trained or informed leaders during the mid-1990s and helped the rebels gain access to the Internet for increased media attention (Harvey 1999; Rich 1997; Stephen 1998). Recent research has differed on whether these mediating structures should be considered as alternatives to governmental action (Putnam 1993), or as essential forums in which democratically sound government action is defined (Couto and Guthrie 1999).

In contrast, others are sceptical of the potential of mediating structures, highlighting their ability to become instruments of privilege (Salamon 1993, cited in Couto and Guthrie 1999); their inaccessibility among the poor and powerless (Price 1980); their tendency to evolve into oligarchic institutions, where political power is concentrated in the hand of major players (Piven and Cloward 1979); or the tendency among many to represent particularistic agendas and lack wider ties to society (Barber 1984). Citizen activism, with experiential learning that builds social capital (Couto and Guthrie 1999), may go much further than formalized and often top-down mediating bodies in consolidating democracies (cf., Young 2001). As described above, mediating structures pertaining to the mainstream environmental movement are dominated by Western-based agencies, which often prioritize conservationist (nature) over humanistic (social) agendas. Such NGOs may be well meaning but can also end up implementing programs without adequate understanding of local realities and needs. They may also lack accountability in local regions when offering solutions to environmental challenges. At any rate, the ineffectiveness, unsuitability, or absence of mediating structures may represent barriers to ecological democracy.

FACILITATING FACTORS

Many factors also facilitate ecological democracy. Five factors that may be particularly relevant include environmental altruism, discursive democracy, perceptions of environmental crises, local-global networks, and cultures supportive of participatory democracy.

First, environmental altruism, defined by one's degree of selflessness with respect to the environment, would be necessary to the emergence of ecological democracy. Recent theoretical work suggests, ironically, that the structurally disadvantaged in society are more likely to shun narrow self-interest in favour of positions that take into account the situation of others (Stern et al. 1999). This may be especially so concerning one's family, health, and the environment. For example, Linda Kalof and her colleagues (Kalof et al. 2002) measured altruism and other values on environmentalism. Their findings included that White men as a group were less environmentally altruistic compared to other groups (e.g., Black women, Black men, Hispanic men, etc.). Some differences were attributable to factors such as risk perception, shared experiences of repression, and dependence on common pool resources (Kalof et al. 2002). In contrast, it has been contended that self-interest or neighbourhood concerns may spur people into civic engagement more than altruism (Greenberg 2001). Still, given that certain groups have historically been subjects of discrimination and disadvantage (e.g., on the basis of gender, race, or ethnicity), it could be posited that their empowerment may facilitate altruistic dialogue (Dietz, York, and Rosa 2001).

Second, we can expect ecological democracy to be facilitated by discursive modes of communication that invigorate citizenship to deal with environmental problems. Deliberation, or deliberative democracy as elucidated by sociologist Jürgen Habermas, among others, is open discussion and debate that attempts to produce reasonable, well-informed opinion within a representative body of citizens, or stakeholders. Yet, few examples exist where the public has been adequately considered in environmental planning or policy setting exercises; by "adequate," this should mean inclusiveness, openness, trust-building, and informed, among other values or conditions (Brechin 1999; Hull and Robinson 2000; Parkins and Mitchell forthcoming; Warren 1999; Williams 1998; Young 2000). Public input is often sacrificed by administrative operations of environmental agencies in the name of efficiency (Torgerson 1999). In contrast, focused attention to expanded sources of "facts" and opinions from diverse sources to inform environmental decision-making would invoke discursive modes of democracy (Dryzek 1992). The development of a green public sphere would be premised upon an ecologically motivated citizenship, whereby citizens assume a strong sense of civic responsibility for developing local solutions to environmental problems (Shutkin 2000). Participating in environmental issues may also instil greater confidence in government and industry. Hence, discursive democracy may counter the failure of market and state decision makers to facilitate citizenship in forestry and watershed management.

Third, studies of environmental justice imply that perceptions of environmental crisis re-stimulate the pursuit of democratic principles, and ultimately improve mediating structures through the mobilization of concerned citizens (Shrader-Frechette 2002; Capek 1993).[5] This literature also suggests that those suffering from environmental injustices should be afforded greater influence in decision-making. Moreover, many citizens are more likely to become involved in issues involving neighbourhood and family health, which describes many ecological dilemmas (see, e.g., Shutkin 2000; Torgerson 1999). Where citizens have suffered ecological and social injustices, they may feel intrinsically motivated to become environmental advocates, possibly leading to formalized environmental management mechanisms. Examples in the United States include the late Judi Bari of EarthFirst! and Lois Marie Gibbs of the Citizens Clearinghouse for Hazardous Waste. Environmental advocates often remain politically active long after their initial activism, extending their democratic experiences into other arenas of benefit to society (Krauss 1989).

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[5] By "perceived," we mean that environmental crises are socially constructed. This does not deny the existence of physical/material properties or "real" problems but questions singular, empirical versions of "truth" or reality.

Fourth, certain cultures supportive of participatory democracy may be more amenable to ecological democracy. In some societal circles where exceptionally formalized, technocratic decision-making predominates, and as discussed above in the fourth hindering factor, participation in environmental planning and management may be restricted. Impediments for public participation may also arise due to cultural factors (for example, language difficulties or traditional protocol may prevent certain individuals from speaking out), procedural impediments (such as when allotted time for discussion and debate is limited), or strategic motives (inadequate communication and information sharing may be used to group advantage). In contrast, some cultures, such as indigenous groups of Mexico, have a shared tradition of strong cooperative relationships and organizational practices, collective land ownership and management, and well-engrained cultural patterns that reinforce long-held local decision-making mechanisms (Cohen 1999). Together with the deference for generational benefits (i.e., long term) exhibited by many indigenous cultures, these socio-cultural strengths may actually favour ecological democracy under the right set of circumstances.

Fifth, the rise and spread of local-global social networks may facilitate ecological democracy. Such networks include anti-globalization social movements (e.g., anti-World Trade Organization (WTO) protests and the Chiapas rebellion), as well as localized struggles such as NIMBYs (Not In My Backyard). While this seems to refute arguments made earlier about ineffective mediating structures, social networks have helped to advance international awareness on socio-ecological challenges, recent or not (Dreiling and Wolf 2001; Gills 2000; Lipschutz and Mayer 1996a; Princen and Finger 1994). The rapid rise in communication technologies has reached even the remotest corners of the globe, and brought the plights of isolated people to the media forefront. For example, during the 1990s, the case of the Ogoni of Nigeria and Shell Oil made international headlines as local and global NGOs worked together (Obi 2000). Still, while NGOs may represent an important option for citizens to address environmental injustice (Shrader-Frechette 2002), they may be most applicable to citizens of those nations with unsupportive or authoritarian governments. Under such circumstances, local-global networks (Frey 2003) could foster friendships across racial, gender, class, and North-South lines. This occurred to some extent during the 1992 Rio Summit on the United Nations Conference on Environment and Development (UNCED).

With ecological democracy defined and described, we can now turn our attention to two empirical examples from Mexico. These illustrate a form of ecological democracy at the neighbourhood or community level, and both entail transnational aspects to some extent, especially the first example. While it would have been useful to examine several cases indicative of each of the aforementioned four scenarios of ecological democracy, limitations of space restrict a thorough analysis of all idealized types here. Instead, two examples indicative of the two extremes were selected: the first to represent Scenario D and the second case to represent Scenario A. This analysis also employs the hindering and facilitating factors of ecological democracy mentioned above.

DEMOCRACY AND ENVIRONMENTAL JUSTICE IN MEXICO

In recent decades, left populism in Mexico and movements for environmental justice in the United States have broadened the call for ecological democracy (Faber 1998:11). Yet, whereas social justice and resistance movements have been analyzed from a Zapatista standpoint (e.g., Barry 1995; Harvey 1998; 1999; Morton 2000), and Mexican environmentalism to some extent (Simon 1997; Simonian 1995), environmental justice in Mexico has not been adequately considered.

The notion of justice has been deeply ingrained in the Mexican psyche ever since the Spanish conquest. Resistance movements in Mexico over land access and social justice occurred throughout the 19th and 20th centuries (Barry 1995). Widespread corruption, cronyism, authoritarianism, and violence have long tainted national and regional politics throughout Mexico (Krauze 1997). Commercial and illegal logging (Guerrero et al. 2000;

O'Brien 1998), industrial pollution along the Mexican-United States border (Hill 2001; Roberts and Thanos 2003, Chap. 2), land conflicts (Harvey 1998), and dam projects (Hindley 1999) have all served as significant stimuli for local mobilization since the 1960s. Marginalized Mexicans have at times retaliated against expansive capitalism, a tendency embodied most recently in the 1994 Zapatista rebellion at the launch of the North American Free Trade Agreement (NAFTA) (Barry 1995). The Zapatista dispute also involves issues of environment (e.g., proprietary rights for agricultural and forestry purposes) and democratic principles (e.g., liberty, citizenship, and other freedoms). More recently, some environmental defenders have been imprisoned or killed for organizing against powerful logging barons and drug lords (Smith 2000).[6] Also, with the massive restructuring of the Mexican economy since the late 1980s that has favoured commercial agriculture and urban-to-rural colonization, many peasants have been left with little choice but to cut down forests and convert "marginal" land for agricultural purposes (Manuel Torres-Rojo and Flores-Xolocotzi 2001).

Environmental consciousness has been gaining strength among many Mexicans (Hindley 1999; Simonian 1995), perhaps recognizing that equality of conditions has been largely working against them. Nonetheless, theirs is not the mainstream environmentalism typical of many Northern environmental groups.[7] Mexican environmental activists are often comprised by the rural poor who link their public claims for justice to sustainable development (Bray 1995; Smith 2000). In one study based in the state of Campeche, a clear distinction was made between environmentally concerned urban dwellers (*ecolocos*, or crazy ecologists) and rural inhabitants: "Many rural people [of Campeche's tropical lowlands] … seem to have a more acute and holistic sense of the threshold of ecological damage that has been reached and the implications for their way of life in the future" (Gates 1998:169). Has this emergent consciousness been a factor in one of the most severely contaminated areas in Mexico - its northern border? This case, representing Scenario D (Status Quo), is discussed in detail below.

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[6] For example, Mexican farmer Rodolfo Montiel was arrested, tortured, and sentenced to six years in jail after organizing a campaign to halt Boise Cascade's commercial logging in the state of Guerrero. President Vicente Fox had him released on November 8, 2001.

[7] For a British example of reform versus radical environmentalism, see Rüdig (1995).

BORDER POLLUTION: SCENARIO D

Few dispute that pollution affects much of Mexico's northern border region (Frey 2003; Hill 2001; Roberts and Thanos 2003). For instance, Scott Frey (2003) cites significant evidence of environmental pollution caused by the *maquiladora* sector, arguing that transferring hazardous industries from core nations has unacceptably increased health, safety, and environmental risks. These risks have included increased respiratory diseases, cancer, birth defects, and severe environmental pressures (e.g., inadequate drinking water, poor sewage services, improper waste disposal, air and water pollution).

These problems have not been handled well, partly because bureaucratic responses to environmental dilemmas differ markedly between Mexico and the United States. To take only one indicator, government expenditures per capita in 1996 were $3,900 USD in the United States and just $500 USD in Mexico (OECD 1998). Even if the regulations were adequate, their implementation suffers from insufficient enforcement capacity (Davidson and Mitchell 2002:280). Moreover, little recourse is available for Mexican citizens who wish to pressure government and industry to clean up or reduce environmental contamination. Citizens who believe Mexico is failing to enforce its environmental laws have the option to submit a complaint to the Commission for Environmental Cooperation (CEC) of NAFTA. However, this is a costly and lengthy process, which often requires considerable legal and political experience. As such, it can be argued that "Scenario D," The Status Quo in Figure 1, accurately depicts the border region: a "lose-lose" scenario for ecology and democracy alike.

One specific case of contamination along the northern border region involves the American-owned company Metales y Derivados in Tijuana, which took in thousands of car and boat batteries from the United States, extracted their lead, and then melted them into bricks to be shipped across the border. In 1994, Metales abandoned their smelter and left behind an estimated 8,500 tons of lead and cadmium toxins (Sullivan 2003). Wind and rain constantly dump toxins in Colonia Chilpancingo, a worker's village of 10,000 people directly below the plant. This case was submitted to NAFTA's CEC, which released its factual record in 2003. A factual record is merely an evaluation and description of matters asserted by the Submitter and the Party. The record reads in part:

> "[T]he site abandoned by Metales y Derivados is a case of soil contamination by hazardous waste, and measures taken to date have not impeded access to the site, prevented pollutants that may have dangerous repercussions on public health and the environment from being dispersed within and outside the site, nor restored the site to a condition suitable for use in conformity with the current zoning (i.e., light industry) of the Mesa de Otay Industrial Park, Tijuana, Baja California, in which it is located."[8]

No guarantee exists that anything will be done to change this "Scenario D" into something more positive, even though this factual record has been made public. Although it is hard to prove if the Metales site is directly responsible, people continue to get sick. Twenty Chilpancingo children under the age of six were tested for lead in December 2002, and the results showed significant and potentially dangerous levels of lead in their bloodstreams (Sullivan 2003). It is unclear if scientific solutions will address these environmental and health challenges, but on the other hand both government and industry have been quick to dismiss public claims of ill effects (Roberts and Thanos 2003).

Despite these odds, one local group has managed to make some headway. As already noted, in certain regions, some environmental NGOs have begun to facilitate the emergence of ecological democracy. They may represent a viable means for curbing the adverse consequences associated with hazardous facilities (Frey 2003). One such NGO is the Tijuana-based, non-profit organization Comité Ciudadano Pro-Restauración del Cañón del Padre (Pro-Restoration Citizen Committee of the El Padre Canyon).[9] The Comité Ciudadano is comprised of approximately 25,000 families situated around the El Padre Canyon in Tijuana. It organizes local people to fight against pollution and worker exploitation, and advocates for increased public participation in local political processes.

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[8] See the CEC website at http://www.cec.org/home/index.cfm?varlan=english for further information on this factual record.

[9] See http://www.environmentalhealth.org/Metales1.html#Comite on the Environmental Health Coalition website, "one of the oldest and most effective grassroots organizations in the United States, using social change strategies to achieve environmental justice."

The group has achieved several significant accomplishments: the permanent closure of two lead smelters that posed serious environmental and health risks (including Metales y Derivados), the removal of unresponsive elected officials, and the enforcement of environmental laws that resulted in the issuance of penalties and citations.

In sum, at least four hindering factors previously noted have prevented the emergence of ecological democracy in the Mexico-United States border region. These include international capital, closed democratic systems, unfavourable equality of conditions, and ineffective mediating structures. International capital arrangements have encouraged heavy (pollution intensive) industry and lax enforcement of environmental regulatory mechanisms. Concessions to northern transnational corporations (TNCs) wishing to establish factories on the Mexican side of the border include tax holidays, labour and environmental exemptions, provision of infrastructure, duty-free export and import, and free reparation of profits (Frey 2003). Equality of current relations of production favour industry, not labour. The *maquiladora* sector has been structured to encourage low-wage female labour with limited opportunities for unionization (Barndt 1999). Since the establishment of the *maquiladoras* starting in the 1960s, the Mexican government has stifled debate or dissension from ordinary citizens on social and health hazards. Pollution is often ignored or denied by state and industry officials, and few opportunities provided for citizens who question scientific results that absolve border industries from blame.

On the other hand, a few facilitating factors suggest that change is possible, even in poor, polluted neighbourhoods of Tijuana: perceptions of environmental crisis (evidence of contaminants and perceived linkages to increased health problems), environmental altruism (some structurally disadvantaged residents beginning to advocate for a cleaner environment), the presence of a strong local culture that supports participatory action (self-organization and local protests), and local-global networks (Comité Ciudadano and CEC). However, genuine willingness on the part of industry and state entities is needed to change the "Scenario D" status of the border region. Such a situation seems unlikely in the near future given the deep-seated hindering factors already mentioned.

COMMUNITY FORESTS: MOVING TOWARD SCENARIO A

A more positive version of ecological democracy is illustrated by the Mexican community forest sector. Since the 1917 Mexican Constitution was passed after the Revolution (1910-1917), various forestry and environmental acts have been proposed, implemented, and reformed (Simonian 1995). Yet, except for the extensive land reforms directed by Mexican president Lázaro Cárdenas (1934-40), accompanied by the creation of a national peasant federation, these policy changes have favoured large-scale corporate use of forest and agricultural land. The trend to commercialization, however, reached its peak during President Carlos Salinas de Gotari's (1988-94) administration of market-friendly neoliberalism (Beaucage 1998).

The first stirrings of community protest against private and parastatal forest concessions emerged in 1968 when 14 communities in the Sierra Norte of Oaxaca led a five-year boycott of a parastatal paper factory, protesting against mistreatment of their people and forests (Bray 1991). In 1979, 26 indigenous communities in Oaxaca created an organization to "defend together our natural resources, principally our forests, to develop our people and defend our organization from the political and educational apparatus of the state" (SEDUE 1986:89). By the early 1980s, Mexican communities had successfully wrested forestland control from the forest companies, and many have successfully established forest enterprises (Bray et al. 2003). Years of protests, blockades, letter writing, marches to Mexico City, meetings with government officials, and legal actions had finally paid off. With an estimated 80% of its forestlands now directly in the hands of communities and *ejidos*, Mexico is unique in the world for communal forest management (Bray et al. 2003).[10]

Community forest successes obscure the fact that many hurdles remain. Only about 12% of the approximately 8,000 communities with forests are legally engaged in forest commercialization (pers. comm., J. M. Torres-Rojo 2002). Increasing deforestation from agriculture conversion, illegal logging, forest fires, marginalization of rural people by state agencies, and land conflicts are some of the main challenges currently facing forest-based communities in Mexico (Cairns, Dirzo, and Zadroga 1995; Gates 1998; Klooster 1997; Otero 2003). Moreover, old entrenched patterns of *caciquismo* (regional bossism), manipulation, and corruption still exist through much of Mexico (Ai Camp 1999; Beaucage 1998; Fox 1994; Krauze 1997). Forest-based advocacy has not always achieved solutions to these ongoing political and environmental challenges, but it has certainly helped. In the last few years, for example, indigenous leaders, *ejido* residents, NGOs, and others of the Sierra Tarahumara in Chihuahua have filed hundreds of citizen complaints about illegal cutting and other unsustainable forestry practices (Guerrero et al. 2000). They question whether forestry operations in the Sierra Tarahumara are complying with their forest management plans and identify protected areas that would help sustain the Sierra's biodiversity and indigenous communities (Guerrero et al. 2000).

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[10] *Ejidos* are communal land holdings that were given legal standing through Article 27 of the 1917 Mexican Constitution.

In Mexico, like most countries, few opportunities exist for regional or national natural resource policy setting and management. This hindering factor has led to a "paradox of public involvement" since citizens expect cutting-edge scientific and technical knowledge to guide them (Walker and Daniels 2001), but they remain sceptical about science's abilities to solve problems exclusive of civic input (Nowotny, Scott, and Gibbons 2001). On the other hand, examples of socially and environmentally responsible forest management can be found in Mexico. Recent research by the author in the Sierra Norte of the southern state of Oaxaca indicates that forest-based communities characterized by a long tradition of healthy cooperative relationships (internally and externally), strong communal decision-making practices, and sufficient forested lands are less likely to engage in destructive practices.

Several forest communities in the Sierra Norte recognize the importance of their forests in providing clean water, checking soil erosion, and sustaining life. Forest management is carried out through internally regulated decision-making rules and norms, but with the cooperation and monitoring of state agencies, including the Ministry of Environment and Natural Resources (SEMARNAT). The World Wildlife Fund (WWF)-Oaxaca program and SEMARNAT have helped finance forest certification for several communities. Many local NGOs and government agencies (mediating structures) are training forest workers and administrators in techniques such as the use of Global Positioning Systems (GPS), pest control, and modern accounting methods. Several Sierra

Norte communities now harvest and process pine trees themselves into diverse wood products.[11] Non-timber uses also provide supplementary incomes for some forest-based communities. These uses include the collection of ornamental plants and mushrooms, pine resin tapping, and provision of ecotourism services. Depending upon the community, profits from forest operations are shared among residents, spent on community social services, and/or reinvested in forest equipment (replacements, additions, and maintenance) and silviculture.

Additionally, sharing of social-economic benefits is common among Oaxacan indigenous groups who often consider both present and future generations in their activities (Cohen 1999). This rhetoric of sharing, equality, and generational benefits (i.e., leaving enough for ones' children) is expressed by many residents in Oaxacan forest communities such as the ones studied for this research. Furthermore, the decision-making mechanisms for managing and enjoying these immediate and future benefits are arguably participatory and deliberatory by intent, if not in practice. Community assemblies are the main venue where majority voting is conducted on crucial agrarian and forestry issues.

However, we qualify these sharing mechanisms since there are obvious abuses of privilege or exclusion by gender, residency status, and other crucial demographic aspects. For instance, while some women are involved in some forestry activities such as tree nursery management, for the most part, local women are expected to fulfill domestic and reproductive duties in Oaxacan rural communities (Dalton 2003; Vázquez García 2001). To be considered democratic by most definitions, management processes should accommodate greater input from local women and other current non-participants (e.g., youth, non-native residents). Yet, there is recognition of such deficiencies among several community authorities interviewed for this research, and new democratic opportunities are starting to appear, albeit slowly (e.g., Dalton 2003).

Summing up, community forestry in the Sierra Norte has been aided by five facilitating factors of ecological democracy: perceptions of environmental crisis, environmental altruism, deliberative forms of democracy, local-global networks, and the presence of a strong local culture that supports participatory action for some. Upon realizing that the former forest companies were degrading their environment, Sierra Norte communities acted collectively to make far-reaching, institutional changes. Community actions shifted from early protests to complex procedural and regulatory changes. These have profited (formerly) structurally disadvantaged residents who advocated for healthier forests and direct economic benefits. Several community interviewees suggested that they were altruistically motivated to favour community and forest wellbeing over individual gains. Local-global networks have been established that favour community forest planning, management, and monitoring. In Oaxaca, these linkages have been mainly pushed by the WWF and FSC, and have helped position several communities as showcases to national and global agencies, generating new expressions of collaboration and support. Alternative forms of revenues are being incorporated by the collection and sales of forest botanicals, which would have been deemed unprofitable during the forest concession years. Arguably, Traditional Ecological Knowledge (TEK) is being applied in the collection of mosses, wild mushrooms, and other non-timber forest products (Berkes 1999; Carruthers 2001), or by the priority residents may place on these. Lastly, none of the above would have been possible without strong local cultures that, on the face of it, encourage citizen participation in forest management. An important caveat, however, is the notable absence of women in key positions and meetings.

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[11] Some forest-based communities in Mexico have had their forests certified by SmartWood according to the principles and standards of the Forest Stewardship Council (FSC).

The main hindering and facilitating features of both examples are described in Table 2-1. In short, ecological resistance emerged from within cultures that express (or are capable and willing of expressing) strong participatory action at the local level. Ecological democracy is far from being realized in the first case, and suffers from certain deficiencies in the second case. Still, these examples highlight various hindering and facilitating factors: to name a few, the premise of equality of conditions, especially in the first case; citizen competence, with local residents questioning government and industry agencies about the "facts" of health hazards or industrial logging; and the need for mediating structures, such as diverse participatory fora that enhance citizenship. Such opportunities mainly include local governance structures, but may also be extended to regional, national, or even international government agencies and NGOs. Improving these mediating structures, for instance, would serve as a conduit for democracy by facilitating open and inclusive participation and enhancing sense of ownership in environmental decision-making.

TABLE 2-1. HINDERING AND FACILITATING FACTORS OF ECOLOGICAL DEMOCRACY IN TWO MEXICAN CASE EXAMPLES

ECOLOGICAL DEMOCRACY	Factor Involved in Case Study	
	Border Pollution	Community Forestry
HINDERING FACTORS		
1. International capital	Yes	Yes
2. Closed democratic systems	Yes	No
3. Unfavourable equality of conditions	Yes	No
4. Scientific prioritization	Unclear	No
5. Ineffective mediating structures	Yes	No
FACILITATING FACTORS		
1. Environmental altruism	Likely	Yes
2. Deliberative democracy	No	Yes
3. Perceptions of environmental crisis	Yes	Yes
4. Cultures supportive of participatory democracy	Likely	Yes
5. Local-global networks	Yes	Yes

CONCLUSION

Unlike previous efforts that have often discussed ecological forms of democracy in vague or esoteric terms, this paper has empirically elucidated what may affect the realization of ecological democracy. After providing an explicit definition for the term, four idealized scenarios were examined that illustrate various transitional states of ecological democracy. Empirical characteristics of ecological democracy, focussing on five hindering and five facilitating factors, were then discussed. The former include international capital, closed democratic systems, the premise of equality of conditions, scientific prioritization, and ineffective or nonexistent mediating structures that serve as a conduit for democracy; the latter include environmental altruism, discursive democracy, perceptions of environmental crisis, local-global networks, and cultures supportive of participatory democracy. Two examples in support of this discussion were then provided; in the first case, border contamination due to heavy industrial use along the U.S.-Mexican border, and in the second case, community forestry in the southeastern state of Oaxaca.

As shown by the community forest example, both ecological and democratic principles can be integrated through concerted civic actions, with fair, inclusive policy and practices directed toward positive environmental and social wellbeing. Local reactions to perceived environmental "bads" can establish new arenas for political participation, particularly among those cultures supportive of participatory mechanisms (see, e.g., Davidson and Freudenburg 1996; McCay and Acheson 1987). While such instances of "Scenario A" will likely continue to be the exception in the near future, definite progress has been made for environmental citizenship in Mexico, and may be evidenced in other regions characterized by similar facilitating factors.

This paper provides a working definition and analytical framework of ecological democracy more conducive to empirical accounts than some previous works (e.g., Faber 1998; Morrison 1995; Shutkin 2000). The insight herein can be treated as an evaluative tool for policy makers, practitioners, activists, educators, and researchers. In addition, the framework laid out in this paper is recursive, recognizing that hindering and facilitating factors of ecological democracy may vary. Likewise, key factors and ways to assess them may differ. This analysis might also have relevance for other areas of sociological interest, including feminism, human rights, and poverty issues, even though these were not explicitly addressed here. Continued research on ecological democracy will provide greater understanding on where we are headed and how we might get there.

CHAPTER 3: TRADE AND DEMOCRACY IN THE COMMONS: NEW HOPES FOR COMMUNITY FORESTRY IN MEXICO

INTRODUCTION

Often local people are treated as an afterthought or as a hindrance to forestry development (Nguiffo 1998). They have even been felt incapable of properly governing forest resources (Hardin 1968), although much literature in recent years has rejected this perception (Ostrom 1990, 1998). Furthermore, forest trade policies have tended to favour corporate over local interests. Rights may be restricted for locals to manage or access forests. Citizens have also been largely excluded from international trade negotiations (Wise and Waters 2001), including those that address environmental issues. An example is the North American Free Trade Agreement (NAFTA) Environmental Side Accord (ESA), "initially designed to encourage citizen participation," but which has serious participatory deficiencies and lacks enforcement capabilities (Davidson and Mitchell 2002:271).

In countries like Mexico, new forest management arrangements that involve local people have high potential for social and environmental benefits. Previously, Mexican corporate forest policies often led to degraded forests and further marginalized forest communities. Moreover, Mexican state agencies have been pressured by urban and rural poor to open up forestlands to agrarian uses, accelerating deforestation (Manuel Torres-Rojo and Flores-Xolocotzi 2001). This has occurred in the Lacandona rainforest (Arizpe, Paz, and Velázquez 1996; Schwartz 1996) and the Chimalapas region (WWF and SEMARNAP 2001) of south-eastern Mexico, among other areas. Times are changing, though. Recent democratic progress at national and regional levels in Mexico and local forestry successes offer hope that common property regimes can work.

Key interstices of forest-related policy, trade, common property regimes, and governance in Mexican forest communities are explored in this paper. The main question is whether collective (i.e., democratic) decision-making in common property forest systems is feasible in the face of mounting pressures for land privatization and trade liberalization. To test this proposition, I first discuss common property systems in general, and then relate these to democratic considerations. Next, I examine Mexico's historical development of regulatory actions around forest trade and land use. Community-based forestry examples from Oaxaca and Chihuahua are then examined with democracy, forest trade, and socio-environmental wellbeing as key themes. Lastly, I comment on the relevance of community-centered forestry politics and practices, and how they can benefit social and environmental sustainability under the right circumstances.

This paper builds on research on ecological democracy as defined by community forest decision-making in southern Mexico. Ecological democracy is defined as an alternative democratic model that strives to incorporate interested citizens into environmental decision-making, and lacks structural features that systematically concentrate environmental amenities into the hands of particular social groups, while imposing environmental degradation on others. My principal methodology was qualitative in orientation, based on a cross-comparative case study. I initially selected several indigenous communities of the Sierra Norte and Sierra Sur of Oaxaca, but eventually focused on two municipalities to collect cross-comparative data. Fifty-one individuals were selected for semi-structured interviews, and included community authorities, forest workers, ordinary residents, academics, industrial operators, and officials from government and non-government agencies. I spent over seven months in the field where I lived with local families, attended community meetings, participated in forestry activities, and observed daily routines of community residents. I also interviewed staff of various agencies and collected supporting documents in Oaxaca City and Mexico City.

DEMOCRATIC FORESTRY, ENVIRONMENTAL SUSTAINABILITY

The premise that local control and democracy can encourage environmental sustainability in the Mexican forestry sector is contrary to Garret Hardin's (1968) renowned "tragedy of the commons" argument. As discussed below, many scholars such as Elinor Ostrom have greatly expanded this line of research. Hardin felt that environmental degradation occurs when common property is managed in a decentralized fashion. Only monopoly (i.e., private, corporate, or state-owned) ownership of common resources would solve the problem of environmental degradation. In contrast, local (i.e., communal) ownership would only exacerbate environmental degradation due to the "rational" use of resources by individuals to maximize perceived personal benefits. This was perceived to be the case among developing nations in particular where local coordination is often difficult due to centralized or authoritarian governments. Not surprisingly, policies promoting privatization of the rural commons in Mexico were justified with such "tragedy" rationales, blaming forest degradation on collective tenancy (World Bank 1995).

More recent works in this literature call for appropriate socio-political mechanisms for people to exercise both individual and group rights in forest management (Colfer and Wadley 2001; Miyasaka Porro 2001). Recent research has demonstrated that individuals can overcome the tragedy dilemma by forming long-lasting common property regimes (Bromley et al. 1992; Goldman 1998; McCay and Acheson 1987; Ostrom 1990).

In her seminal work on common property institutions, Ostrom (1990:14) argues against the popular assumption that common-pool resources must be protected under state management or private ownership, and demonstrates the promise of supporting "self-organizing, self-governing" institutions to resolve collective action dilemmas. By "governance," Ostrom refers to the broad set of rules determining access to common-pool resources: tenure regime, definition of stakeholders and the electorate, voting principles, decision-making processes, and distributive rules allocating costs and benefits of use or ownership rights (Ostrom 1990). In this "institutional choice perspective," Ostrom and others claim that individual rationality can be harnessed for public and environmental benefits (Ostrom 1998).

However, for some authors, institutional choice understates the complexity of tenure practices, downplays history or processes outside the community, and overlooks social processes through which people come to understand and resolve their common problems (Klooster 2000). To address these shortcomings, several scholars call for "thicker" explanations that would link common-pool resource regimes more explicitly to a historical context of intertwined social and political relations (Klooster 2000; McCay and Jentoft 1998; Taylor 2000).

Using a thick explanatory mode of enquiry, at least two questions can be asked concerning common property forest systems. First, what effect have certain institutional mechanisms, such as changing democratic processes, forest trade rules, and government policies, had on common property forestry systems? Second, can common property forestry regimes lead to increased environmental sustainability and democratic management? These questions are addressed through key historical and socio-cultural processes in Mexico, focusing on the relevance of democracy, policy, and transnational trade to the country's forest regimes in the first section, and on success factors related to common property forestry systems in the second.

DEMOCRACY IN MEXICO?

Democracy, often neglected in common property analyses, has received increased attention in the literature on Mexican politics (Davis and Brachet-Márquez 1997; Fox 1994; Fox and Hernández 1992; Klesner 1996; Zermeño 1987). With the decline of the long-ruling Institutional Revolutionary Party's (PRI) power and influence, unique expressions of democracy have come to the forefront of the Mexican political landscape (Cornelius, Eisenstadt, and Hindley 1999; Morton 2000; Rubin 1997). For instance, indigenous democratic regimes are being mixed with sustainable environmental management (Barkin 1998; Bray 1995; Carruthers 2001), sometimes with excellent results (see Sánchez Pego 1995). Likewise, environmentally-related popular movements are becoming more commonplace in Mexico (Hindley 1999; Stephen 1998). Intentionally planned to coincide with the 1994 implementation of NAFTA, for instance, the Zapatista rebellion in Chiapas brought global attention to issues of poverty and injustice within Mexico. The dispute also involved issues of environment (e.g., propriety rights for agricultural and forestry purposes) and democratic principles (e.g., liberty, citizenship, and other freedoms). These few positive examples are fragile at best in a country long characterized by authoritarianism, corruption, and opportunistic politics (Ai Camp 1999; Fox 1994).

Some political analysts call for political decentralization and renewed local governments to strengthen democracy (Abers 2000; Fischer 2000; Nickson 1995). These authors, among others, feel that local governance would support dialogue and conciliation, encourage social justice, and promote environmental wellbeing along with more equitable and sustainable economic growth. Localized forms of government include novel forms of community organizations or social movements (Canel 1997; Cohen 1999; Hebert 2003; Kaufman and Haroldo Dilla 1997). Unlike most formal political institutions, some feel that community organizations have greater potential of responding to changing circumstances (Kaufman 1997:11).

Democratic circumstances are not only shaping Mexican politics; they are a major element of its common property resource regimes. Components of communal forest governance normally include trust, cooperation, participation, inclusiveness, and sharing of benefits - all key features of participatory democracy. Trust is key among these: i.e., trust in local authority, in decision-making, in relationship building, and in accepting the "rules of the game" that determine social practices (Klooster 2001; Ostrom 1990). Some of the natural resource literature has identified a clear relationship between trust and successful participatory processes (Moore 1994; Wondolleck and Yaffee 1994). Furthermore, Ostrom (2001) and others have discussed types of rules or "design principles" (also elements or conditions) needed to enhance the success of common-pool resource management. It is much harder, however, to generalize rules for members of a self-governing community, to determine access and user rights to a common-pool resource, to delineate their common-pool resource, to outline roles and responsibilities, and so on. In Mexico, however, communal acceptance of rules is already a cultural reality in many indigenous communities, along with a social obligation for both men and women to participate in local governance (Cohen 1999). Hence, communal resource management systems can be expected to offer, at least, the potential for democratic decision-making.

MEXICO'S FORESTS

Mexico is ranked fourth in the world in forest species diversity (CEC 2001), with the world's largest number of oak species (Jaffee 1997). Closed temperate forests, characterized by a roughly continuous green canopy, encompass approximately 26% (49.7 million hectares) of Mexico's total land area (191 million hectares) (Manuel Torres-Rojo and Flores-Xolocotzi 2001).

Negative environmental impacts on Mexico's forest ecosystems include agricultural and ranching encroachments, improper forestry practices, and soil erosion. Part of the problem has been that Mexican public policies have long favoured large-scale agricultural crop and livestock production over forest conservation (Barry 1995; Simonian 1995). With an annual deforestation rate of 510,000 hectares (just over 1%), Mexico is ranked fifth in the world in terms of annual forest loss (Roper and Roberts 1999). More than half of Mexico's forests have disappeared in the past 100 years, leaving about 24 million hectares of tropical humid forests and 25 million hectares of temperate forests (Guerrero et al. 2000). Areas experiencing severe deforestation include the Lacandona Rain Forest of Chiapas, the Chimalapas region of Oaxaca, and the Meseta Purepecha region of Michoacán.

After the Revolution (1910-17), political leaders recognized that land distribution would contribute to regime stability. Hence, the reformed 1917 Constitution included Article 27, which stipulated that land in Mexico was to be "socially" defined. In other words, "social land" meant either *ejidos*, allocated to a group of people who jointly share the land rights, or *comunidades* (agrarian communities), in which the state recognized a community's ancestral rights to land that they had occupied before colonialism. Over time, most large landholdings were parceled out to impoverished peasants under the communal *ejidos*, which could be inherited but not rented, sold, or mortgaged outside of the *ejido*. Beginning in the 1920s, the foundation for rise of community forestry was laid with the massive transfer of forest natural assets from the state and the private sector to these agrarian reform communities. Today, about 49% of the total land area in Mexico is comprised of *ejidos*, pertaining to 3.1 million *ejidatarios* (registered *ejido* members) and members of agrarian communities, or 70% of Mexican farmers (Barry 1995:119).

At least three problems were associated with the *ejido* system. First, while the *ejido* system appeared to be a democratic institution (e.g., consensual decision-making and elected authorities), many were also hotbeds of corruption and *caciquismo* (regional bossism). Second, *ejido* lands were composed of individual parcels that were too small for subsistence, and *ejidatarios* lacked incentives to manage their few acres well (DeWalt and Rees 1994). Consequently, overutilization led to ecological degradation on their farming plots (Yetman and Búrquez 1998). Furthermore, although the *ejidos* were important for many small-scale farmers, most did not apply to commercial forest use until relatively recently. In 1992, restrictions on selling or renting *ejido* lands were lifted to permit individual *ejido* owners to join the private sector, although most have not done so until now.

During 1940-1970, communities were almost completely shut out of Mexican policy making. The government controlled forest production by alternating concession-granting periods with forest extraction bans (*vedas*). The first concessions were granted to privately owned industries, then later to state-run enterprises. A 1947 forestry law established that communities could only sell wood products to Forest Exploitation Industrial Units (UIEFs).[12] The concessions controlled extensive areas, such as the Fábricas de Papel Tuxtepec (FAPATUX) which held a 25-year concession covering 261,000 hectares of the Sierra Norte in Oaxaca. Blaming *campesinos* (peasant farmers) for advancing deforestation, the government declared logging bans in 20 states between 1940 and 1952 (Bray and Merino-Pérez 2002). For example, in Durango, two million hectares were placed under a ban (Zarzosa L. 1958, cited in Bray and Merino-Pérez 2002). By 1958, 11 states were under total bans, including such important forestry states as Michoacán and Veracruz, with partial bans in 10 other states, covering an estimated 32% of Mexico's forest area (Hinojosa Ortiz 1958, cited in Bray and Merino-Pérez 2002).

Although these restrictions made it seem that the government was genuinely concerned about conserving forested areas and promoting wise forest use, the reality was much different (Alatorre Frenk 2000; Bray 1991, 1995). The undemocratic practice of awarding long-term concessions was socially and environmentally damaging. For instance, the forest access restrictions severely hurt community and *ejido* members who needed fuelwood and building materials. Communities usually received below-market prices for timber. Furthermore, the parastatals responsible for providing education, training, and social services to communities largely reneged on their commitment. The logging bans and concessions denied communities any opportunities to learn how to utilize their own forest resources (Bray 1995:192). Facing poverty and marginalization, many turned to illegally extracting forest products, which intensified deforestation.

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[12] Eventually 19 UIEF's were created, but only four remained by 1989 (Weaver 2000:3).

As for the logging concessions, forestry was based on "scientific" practices - the so-called *Método Mexicano* (Mexican Silviculture Technique) - and by access to the resource and equipment capacity, not conservation (WRI 1996). Forests were severely degraded by this process of "high grading," or selectively removing the biggest and healthiest trees. Planting was rarely done since it was believed that understory pine seedlings and saplings would naturally regenerate under a closed canopy. Unfortunately, this technique did not work well with shade intolerant pine trees.

In response, community protests during the 1970s and early 1980s eventually bore fruit for communal forest control. The first stirrings of community dissent against the forest concessions emerged in the 1960s. In 1968, 14 communities in Oaxaca's Sierra Norte led a five-year boycott of a parastatal paper factory (FAPATUX), protesting against mistreatment of the communities and their forests (Bray 1995:192). In 1979, 26 indigenous communities in Oaxaca created an organization to "defend together our natural resources, principally our forests, to develop our people and defend our organization from the political and educational apparatus of the state" (SEDUE 1986, cited in Simonian 1995:208). In the mid-1970s, a new community-oriented policy began to emerge from a division within the Secretary of Agriculture and Hydraulic Resources (SARH). The Head Office for Forestry Development (*Dirección General de Desarrollo Forestal*) of SARH began a determined and temporarily well-funded effort to train communities and manage their own forest resources and industries. As the concession era ended, most forest communities were allowed to sell their timber and receive full market prices, not a government-set stumpage fee. In 1986, the federal government passed a forestry law ending private concessions and parastatals, thus returning control of most of Mexico's forests to indigenous communities and *ejidos*. Greater systematic environmental regulation for the forestry sector was also introduced. As before, communities and *ejidos* would have to develop forest management plans by enlisting the aid of qualified foresters and submit permits for transport, processing, and sales of wood. Nevertheless, seeds were sown for possible democratic forest management.

NEW FORESTRY LAWS AND INSTITUTIONS

Community-focused political attention did not last long. Mexico's forest legislation shifted from an emphasis on combined corporate forest use and grassroots development to a market-friendly, neoliberal approach during Carlos Salinas' 1988-94 administration. New agrarian reforms fit both the conditions placed upon Mexico by the NAFTA treaty and the general policy of free-market economic restructuring (Silva 1997). In 1992, amendments to Article 27 terminated the government's historic commitment to provide land to petitioning *campesinos* and opened the door to communal land privatization (Barry 1995). Policies were aimed at improving business and trade with American and global enterprises rather than benefiting most Mexicans.

The Mexican government later reformed its General Law of Ecological Equilibrium and Environmental Protection in 1994 and the Forestry Law in 1997. The 1994 reforms combined forest management and general environmental responsibilities into a new, centralized Ministry of Environment, Natural Resources and Fisheries (SEMARNAP).[13] Under the rubric of sustainable development, SEMARNAP was charged with defining the principles for ecological policy and ecological management; preservation, restoration, and improvement of the environment; protection of natural areas, wild and aquatic flora and fauna; and prevention and control of air, water and land pollution. The 1997 Forestry Law reforms focused on solving the problems of *tala clandestina* (illegal cutting), unregulated commercial forest plantations, and technical forestry services. Some regulations eliminated in 1992 were re-established to again require documentation and control of timber harvesting, transport, storage, and processing.

The fisheries component was later dropped from SEMARNAP and the federal office became the *Secretaria de Medio Ambiente y Recursos Naturales* (Ministry of Environment and Natural Resources), or SEMARNAT. This institution has built a strong environmental regulatory framework that has likely received greater political attention during the current *sexenio* (six-year presidency) than any other. SEMARNAT has allied itself or created several new progressive programs and policies in forestry, is concentrating on both timber and non-timber benefits of forest resources, and has allocated substantial resources such as training and subsidies to establish commercial forest plantations and manage natural forests. A new direction occurred in 2000 when President Vicente Fox established the National Forestry Commission (CONAFOR). Although CONAFOR is nestled within SEMARNAT's organizational structure and mandate, this newer agency has gradually taken over most forestry responsibilities from SEMARNAT.

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[13] SEMARNAP took over the environmental functions and agencies previously carried out by the *Secretaría de Desarrollo Social* (SEDESOL) and the *Secretaría de Agricultura y Recursos Hidraulicos* (SARH).

While many of these recent forest policy and institutional initiatives have been encouraging, several challenges remain for SEMARNAT, including one of its main administrative units, PROFEPA (the Attorney General's Office for Environmental Protection and similar in many respects to the United States Environmental Protection Agency, or EPA).[14] Among the problems identified by some interviewees for this research have been inconsistencies in policy enforcement and heavy-handedness in dealing with environmental infractors. Certain decisions have occasionally contradicted each other. This occurred, for instance, when PROFEPA suspended all logging during 2002 in the Chimalapas region of Oaxaca due to serious infractions, but at the same time the head official for SEMARNAT in Oaxaca gave the green light for continued logging. Another challenge is that financial and human resources are considered woefully inadequate for PROFEPA to be able to effectively carry out their diverse environmental protection activities. In an interview with the Oaxaca-based representative for PROFEPA, their unit was felt to be "like the tail end of the institution [SEMARNAT] and we never get many benefits."

Some interviewees also accused SEMARNAT managers of prioritizing technical forestry aspects over biological concerns. In an interview, an ex-official for SEMARNAT felt their agency must be better consolidated and funded in several states. Likewise, the hiring of SEMARNAT directors has not always been in accordance with their technical or administrative capabilities, but rather on whether incoming officials were politically aligned with preferred federal or state parties. Still, many of those interviewed in this study expressed sincere hope that SEMARNAT, CONAFOR, PROFEPA, and several other affiliated agencies and programs were creating better opportunities for enlightened forest management than ever before, with particular benefit to forest-based communities.

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[14] PROFEPA was created in 1992 to enforce environmental regulations and respond to citizen complaints.

In summary, substantive changes have occurred in Mexico's legal-political forestry realm. Rural communities with common property forests are now largely responsible for their own forest planning and management, although in accordance with the regulatory framework of SEMARNAT and affiliated agencies.

NAFTA AND THE ENVIRONMENT: TRADING TREES

While forest trade in Mexico has been discussed elsewhere (Barry 1995; Lyke 1998; Prestemon and Buongiorno 1996; Smith 1992; Taylor 2000), political mechanisms - local, regional, and transnational - have been little analyzed with respect to the community forestry sector (cf., Silva 1997). North America's most important transnational trade agreement, NAFTA, marked the first time that environmental concerns were addressed in a comprehensive trade agreement.[15] Moreover, Mexico is the only developing country to enter a free trade agreement that incorporates an environmental clause (Schatan 2000). It was also argued that involvement with NAFTA might help Mexico find solutions to its ecological problems (Husted and Logsdon 1997). On the other hand, some claim that NAFTA continues to generate unjust and ecologically destructive economic practices (Dreiling 1997). Pollution along the *maquiladora* border area in northern Mexico, for instance, has not abated since NAFTA's inception (Frey 2003; Roberts and Thanos 2003). This is despite the fact that the main concern for NAFTA's environmental negotiators was pollution control, such as the transport or disposal of hazardous materials. Environmental impacts attributed to natural resource-based industry activities (e.g., forestry, fishing, oil and gas extraction, and mining), received even less attention, and in fact were mostly "off limits" as points of contention for the NAFTA players.

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[15] The Environmental Side Agreement (ESA) is formally called The North American Agreement on Environmental Cooperation between the Government of Canada, the Government of the United Mexican States, and the Government of the United States of America (NAAEC).

While NAFTA has done little to consider the socio-environmental effects of forest harvesting, it has also inadequately addressed forest products trade. This is surprising given that trade among the NAFTA partners is a relatively important activity, particularly so for the majority of Canadian lumber and pulp manufacturers that rely on sales to the United States. Indeed, NAFTA forest trade has been a contentious issue between Canada and the U.S., as evidenced by the long-standing softwood lumber dispute. On the other hand, perhaps due to its relatively minor importance in the North American forest market, Mexican forest trade has received much less attention (Prestemon and Buongiorno 1996). The U.S. (and lately, Chile) is among the principal suppliers of forest products to Mexico, especially for coniferous lumber, plywood, and temperate hardwoods. The balance of trade in forest products between the U.S. and Mexico has traditionally tipped in favour of the U.S. due to Mexico's dependence on U.S. pulp and paper exports (Lyke 1998). Due to the drastic peso devaluation after the 1994-95 economic crisis, Mexican forest exports temporarily gained a larger market share relative to U.S. products. Today, large stockpiles of domestic forest products are competing with cheap lumber imports from the U.S. and Chile, and efficiency has become a major concern in Mexican sawmills according to some respondents in this study.

This discussion indicates that certain institutional mechanisms, such as changing democratic processes, forest trade rules, and government policies, have already had, or could have, important impacts on common property forestry systems. However, it is not immediately clear whether these impacts can be categorized as largely positive or negative. Does free trade benefit local, forest-based communities and their environment? At first glance, it appears unlikely. The social institutions underlying community forestry face high pressure to promote privatization and position elite as key decision makers for market choices (Abardía Moros and Solano Solano 1995; McCay and Jentoft 1998; Taylor 2000). With inadequate training, poor financial capacity, and geographical isolation, Mexico's forest-dependent communities face major hurdles. However, under the right organizational and cultural conditions, pro-trade interests may be compatible with sustainable forest harvesting and democratic communities. Mexican forest-based *ejidos* and communities have long been engaged in collective decision-making, and many have substantial local knowledge of their forests and watersheds. Whether or not trade can be considered as a key component of common property forest regimes is further addressed in the following section.

THE COMMUNITY FORESTRY EXPERIENCE

In this section, we address the second question posed earlier: namely, can common property forestry regimes lead to increased environmental sustainability and democratic management? As indicated above, trade in forest products may be relatively small in proportion to other sectors in Mexico. Yet, forestry is far from insignificant to Mexicans. Of the total country's population of 92 million, 25% or 23 million are considered rural, and of these, approximately 10 million people live in forest areas (CONAPO, cited in Segura 1996).

Mexico's community-managed forests appear to be at a scale and level of maturity unmatched anywhere else in the world. Still, the uniqueness of the Mexican experience in community-based forest management appears to be significantly under-appreciated. Partly because of aggressive community organizing in the 1980s, Mexican community forestry has seen high growth. Individual community land holdings range from 100 to 100,000 hectares. Recent estimates indicate that about 8,000 communities have forests, although no more than 12% are legally engaged in forest commercialization (pers. comm., J. M. Torres-Rojo, September 25, 2002). Current estimates of community forest enterprises range from 288 to 740, although only a small percentage are commercially competitive (Bray and Merino-Pérez 2002).

Before singling out a positive example of community forestry, it is worth looking at the more typical scenario throughout Mexico: uncontrolled cutting of trees for profit combined with intense pressures to convert forests into pasture or cropland. Deforestation is common in Mexico (Cairns, Dirzo, and Zadroga 1995), although this is often due to factors such as corruption and rampant poverty rather than poor forest management (e.g., Klooster 1997). In some states such as Chihuahua, owners of lumber and paper and pulp companies largely profit from forest exploitation. Chihuahuan *ejidos* and indigenous communities have received little benefit from their forest resources (Guerrero et al.

2000). *Ejidos* may formally control the forest's timber but the *ejidatario* typically receives only a small annual dividend from wood sales. In the last few years, furthermore, indigenous leaders, *ejido* residents, non-governmental organizations, and others of the Sierra Tarahumara in Chihuahua have filed hundreds of citizen complaints about illegal cutting and other unsustainable forestry practices (Guerrero et al. 2000). Intensive pressures to harvest the forest, a corrupt socio-political control structure in forestry *ejidos*, insufficient resources, poor enforcement of federal forestry and environmental laws, and a lack of political will have all contributed to these problems (Guerrero et al. 2000).

Other Mexican states such as Guerrero, Michoacán, Sinaloa, Chiapas, and Oaxaca are experiencing deforestation as well. About 70% of the once-arable land in the Mixteco region has been ruined by erosion (Simon 1997:36). The southern Mexican dry forests are among the top 10 most threatened forests in the world, with only 2.1% listed as protected or managed (WWF 2001). One of the principle causes of deforestation in Oaxaca is agricultural and ranching expansion, with an annual forest loss of about 40,000 hectares (R. González 2001). On the other hand, 91% of the state's forest production comes from communities and *ejidos* (total productive forest landbase of 680,000 hectares).

In Oaxaca, three critical regions marked by uncontrolled logging include Chimalapas, the Sierra Sur, and the southern coast. Forest coverage on Oaxaca's southern coast, in particular, has been reduced by 50% since 1958, partially due to the sustained demand for tropical hardwoods, inadequate planting, and few income-generating alternatives (Barkin 2000). Traditional communal management practices once restricted forest access, but opportunities for employment in tourism have created a heavy flow of migrants from the central highlands and other regions. Coastal mega-developments like Bahias de Huatulco must share some responsibility as well; instead of respecting and working closely with indigenous groups in Huatulco and elsewhere, a clientelist political structure and outside investors have shunted locals aside to make room for commercial development (Barkin 2000).

DEMOCRACY AND FORESTRY IN THE SIERRA NORTE

Not all is bad news for Mexico's forests, where communities and *ejidos* manage an estimated 80% of its forestlands (Bray et al. 2003). The southern state of Oaxaca ranks among the top five Mexican states that list forestry as a relatively important economic contributor. Oaxaca, particularly the Sierra Norte, has one of the strongest models of community organization and community forestry in Mexico, representing a stark contrast to the examples mentioned above (e.g., Chihuahua and Huatulco). Over one-third (41%) of the economically active population conducts agriculture, fishing, and forestry activities (INEGI 2000). An estimated 40,000 direct and indirect jobs are realized through the efforts of 137 forest communities, and forest product sales help fund many social projects (Fonseca, Barrera, and Barrera Terán 2000).

Evidence of how Oaxacan communities with common property forests have improved local forest management (compared to the former concessions), while inserting themselves into domestic and international markets, is demonstrated by the increasing importance of forest certification schemes (Robinson 2000a; 2000b; Taylor 2003). This is a voluntary process that guarantees forest products are obtained in a socially, economically, and environmentally acceptable way. The certification scheme predominant throughout Mexico is the Forestry Stewardship Council (FSC). The FSC believes that endorsed certification could help expand market opportunities for well-managed community forest enterprises. Mexico is now listed among the world leaders in community forest certification. Independent, third party certification of well-managed forests emerged in Mexico in the 1990s. By January 2004, its total certified forest area was 565,327 hectares (1.1% of total closed forests, or continuous green canopy), of which 94% was communally managed (27 out of 32 certificates).

The earliest forest certification experience in Mexico's temperate forest zone were the community forests of *La Union de Comunidades Forestales Zapoteco-Chinanteca* (UZACHI) in the Sierra Norte of Oaxaca, founded in 1989. As a union of four indigenous communities, UZACHI formed itself to protect its community forest resources.[16] From

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[16] These communities are San Mateo Capulalpan de Méndez, Santiago Comaltepec, Santiago Xiacui, and La Trinidad Ixtlán.

1980 to 1982, UZACHI *comuneros* convinced the government to drop the long-term concession to a state-owned pulp and paper company (FAPATUX) and transfer forest stewardship responsibility for 21,000 hectares of upland pine-oak forest to local communities. Before the formation of UZACHI, the community of Comaltepec developed a land use plan that was democratically approved by its general assembly in 1988 (Bray 1991:20). Today, UZACHI is considered a model of successful community collaboration for democratic forest management and protection.

Another example of forest certification in the Sierra Norte is Ixtlán de Juárez, an indigenous community of 2,500 people. Here, about 384 commoners share the rights to 19,500 hectares of mainly productive pine-oak forest (Robinson 2000b). Around 1996, the World Wildlife Fund (WWF)-Oaxaca program offered to help finance their certification under FSC standards, but the community initially declined. They later had second thoughts and decided that certification would be worth pursuing. In 2000, Ixtlán leaders democratically agreed to resolve an outstanding territorial dispute with a neighbouring community to allow for a forest certification evaluation. A professional forester explained that certification would help find a niche international market for their products, and indicated that little demand existed for certified wood in Mexico. The community first wanted to consolidate a fledgling door-production workshop that targeted local and national markets, but hoped to enter the international market eventually. Their overall goal was to improve their livelihoods through sustainable forest management. Forestry is now the largest income generator for Ixtlán (Robinson 2000a). Proceeds from forestry sales have allowed for investments in service provision (schools, roads, etc.), social security payments to the elderly and the sick, and annual profit shares to both workers and commoners. The forest business has also become a source of regional employment opportunities. Women have been recruited to work in the palette factory and kiln operation. Ixtlán now has over 200 permanent jobs in forestry.

In addition to these social gains, forests of the Sierra Norte are regaining both health and quality after many years of degradation during the concession years. Approved logging plans usually respect wild mushroom areas to provide supplementary incomes for mushroom pickers, and cutover areas are kept small. Annual planting with fast-growing pine raised in community-run tree nurseries improves reforestation success, even where *arboles padres* (seed trees) are left for natural regeneration. Severe sanctions are applied to those who abuse forest privileges such as cutting trees without permission. The maximum annual allowable wood volume is frequently not met if the community feels enough timber has been harvested to meet their social needs, leaving uncut timber as "savings" for future growth. Finally, democratic assemblies are often held to make communal decisions about the scope, direction, and pace of local forest management. Still, as mentioned above, since these common property assemblies almost always exclude women (as well as other citizens in certain communities), it raises some doubt if one wishes to declare that democracy has been achieved in these forest communities.

On the other hand, many of the presumed benefits from forest certification such as obtaining higher prices for "green stamped" forest products have yet to be realized. This is due to a variety of reasons: outdated milling equipment, low production volumes, domestic reluctance to pay more for certified wood, and inadequate marketing (Robinson 2000a). Yet the gains go far beyond increased log sales and higher prices in niche markets, whether achievable or not. In effect, certification helps to counter the common perception expressed during interviews by many residents of Oaxaca City that forestry is associated with environmental degradation. As Dawn Robinson suggests, "certification has helped to reduce intimidation from skeptical politicians and environmentalists who previously had barely distinguished between community based timber extraction and illegal logging" (Robinson 2000b:30). One community leader in Santa Catarina Ixtepeji (near Ixtlán) pointed out that "forest certification shows the world that we are doing good forestry." Forest certification also addresses the concern that values inherent to common property resources are difficult to balance with broader market opportunities (cf., Antinori 2002). In sum, certification offers hope for developing new markets and retaining existing ones, while alleviating to some extent internal and external concerns for how local forests are being managed. In the future, however, certification presents serious challenges such as its high cost for small communities, which have been largely subsidized in the Sierra Norte. For instance, the World Wildlife Fund of Oaxaca and SEMARNAT have been paying forest certification fees for many communities, which may run as high as $60,000 USD over a five-year period. However, this financial commitment is highly tentative and may end at any time.

REASONS FOR SUCCESS

Several other flourishing common property forestry examples can be found in Oaxaca (e.g., Santa Catarina Ixtepeji, Santiago Textitlán, San Pedro el Alto, and Pueblos Mancomunados). What makes these so successful, and how is "success" being measured? Success has to mean more than just economic efficiency or amount of wood produced and exported. Pete Taylor, a sociologist who has worked with Mexican forestry communities, has suggested several criteria of common pool success: that they survive over several generations, consistently benefit many members over time, and allow for renegotiating governance arrangements (Pete Taylor, personal communication, cited in Bray and Merino-Pérez 2002:65). Success in social and environmental terms can also be measured by whether it has helped provide meaningful employment, generated supplementary incomes, built community pride and trust, contributed to democratic decision-making, increased environmental awareness, and improved forest health.

Most of these measures of common pool success in forest management can be grouped into four leading factors - ***cooperative mechanisms***, ***environmental awareness***, ***forestry experience***, and ***forest diversification and trade***. These factors are described in more detail as follows:

1. *Cooperative mechanisms*. Some scholars have gone so far as to state that the tragedy of the commons, at least for local scales of analysis, "is not a fundamental issue in Mexico because social structures still exist that diminish its effects" (Sarukhán and Larson 2001:65). Above all, these social structures include strong traditions of communal management that continue to predominate in communities with well-preserved forests. Although serious intervillage conflicts exist throughout rural Oaxaca (Dennis 1987; Klooster 1997; Otero 2003), many Oaxacan rural communities support local forms of communal organization that reinforce long-held decision-making mechanisms (Cohen 1999). Farsighted and flexible Oaxacan municipal laws have strengthened cooperative traditions of trust and duty in community leadership and communal decision-making (cf., Velásquez C. 2000). High communal cooperation also ties into the "social capital hypothesis," in which the struggle against large private or parastatal industries acted as a "consolidating force among communities that facilitated collective

action to invest in industry" (Antinori 2002:64). Dense socio-political ties and obligations enhance community solidarity and promote local autonomy, often filling voids where government or the private sector may have encroached on local affairs. An increased sense of solidarity is only natural under such circumstances. Among other aspects, many intertwined and dynamic cooperative relationships distinguish indigenous communities, with an ever-present tendency toward solidarity, even if marred by internal and external conflict. As the French sociologist Durkheim, among others, have described, solidarity is an important aspect of any functional community (Durkheim 1964; Galjart 1976). It builds on a communal sense of identity and provides for collective action when aims are shared among families or groups. These informal and formal cooperative arrangements provide a security system based on a web of loyalties and reciprocity, which is distinct not only from most Western cultures, but from the largely dominant mestizo culture in Mexico as well.

Indigenous politics and cooperative practices, or *usos y costumbres* (usage and customs), are readily seen among Zapotec communities in southern Mexican states such as Oaxaca and Chiapas. Zapotecs organize their social universe into an interconnected system of various stages: individual, household, neighbourhood, village (El Guindi and Selby 1976). The most familiar forms of community cooperation in Zapotec communities are *guelaguetza*, *compadrazgo*, *tequio*, and *cooperación* (Cohen 1999:91-93). The *guelaguetza* is a formal system of reciprocity and cooperation founded upon marriage, and that mutually ties a household to others in the community. The *compadrazgo* system parallels real familial relationships; it links people of differing statuses and classes to ensure poorer community members of at least a nominal voice in political decisions. The *tequio* is the equivalent of the *guelaguetza* at the level of the community, and defined as "collective work that is organized around projects of the formal municipal authority" (Acevedo C. and Restrepo 1991:23). *Tequio* is often difficult but worthwhile work, and thought of as "something given to the community" (Cohen 1999:114-115). *Cooperación* is a form of locally imposed taxation "based on rising incomes in the community, the technological demands of villagers, and shifts in what the community wants through local development" (Cohen 1999:118-119). Although *cooperación* can be burdensome for some, even undermine the cooperative basis of local government, it also creates a development and programming framework that reduces state involvement in local affairs.

Likewise, communal government is a distinctive part of Mexican indigenous communities, with a blurring of distinctions between authority and social prestige. The latter can be demonstrated in the realm of public life by community service; namely, by participating in a hierarchical system of public posts called *cargos*, each with defined obligations. They are ranked according to status and the burden associated with a position. Cargos are voluntary or obligatory, and in the last case filled by designation or by election. The cargo system formalizes authority for a community, "which is simultaneously civil, religious, and moral" (Bonfil Batalla 1996) 1996:36). Those who pass through all cargos become *principales* and enjoy a special moral authority (Bonfil Batalla 1996:137). In short, democracy has been enhanced by these favourable cooperative mechanisms, which are further explained in the discussion section.

2. *Environmental awareness*. Many communities have developed a conservation ethic that prevented them from wiping out their forests once turned over to them. Local authorities and residents of many Oaxacan communities consider their forests to be an integral part of their social, cultural, and economic wellbeing. Many are acutely aware of their responsibility to the forest, abiding by the principle that the forest is for all to use, including visitors and future generations. This ecological awareness appears to be particularly strong in places such as the Sierra Norte of Oaxaca, typified by a long institutional memory of past environmental degradation and political restoration (Mathews 2003). Indeed, some local authorities, government officials, and nongovernmental representatives felt that certain *ejidos* and indigenous communities have come to realize the importance of their local natural heritage:

> "If I'm a capitalist and they give me permission to cut down 10 trees, I will do it. The communities have another logic - if they don't need to fell

> 10 trees, they don't. It's an environmental ethic, … a cultural dialogue between an entrepreneurial model and a communitarian model. … Indigenous people have a more sacred vision, whereas the materialist world loses sight and destroys everything" (academic, Oaxaca).

In a more specific example of ecological awareness, the Sierra Norte community of Santa María Yavesía employs ecological arguments to prove they are taking good care of their forests compared to their neighbours: "We have conserved our natural resources. … We relate very much to nature and we have taken care of it" (PANOS 2002:21). Yavesía's ecological awareness also rests in their collective memory of various legal, political, and even physical battles over environmental rights. On the other hand, some interviewees felt it highly unlikely that those communities demanding forestlands was due to any deep-seated feeling for conserving nature. Rather, they felt that poor economic circumstances had led Mexican indigenous communities to take advantage of an "ecological" argument that certain conservationist organizations were pushing. Whichever the case, it seems likely that ecological awareness is one key component of common property forest management in Oaxaca.

3. *Forestry experience*. Modern scientific forestry techniques are being combined with new strategies for increased sales of forest products, and with traditional systems of governance. Many community members have previous experience working with the former concessionaires in logging, hauling, scaling, milling, reforestation, and forest protection. They have also learned from past mistakes and are experimenting with new forestry methods. Several communities are taking full advantage of technological advancements to improve administrative efficiency, such as the Global Positioning System (GPS) for mapping purposes. Non-governmental organizations such as the WWF and government agencies such as SEMARNAT are training several of these communities in forest administration and silvicultural techniques.

Local knowledge may also play a key role here. In particular, Traditional Ecological Knowledge, or TEK (Berkes 1999; Gody et al. 1998; Klooster 2001), suggests that indigenous people directly depend upon environmental health for their own wellbeing, given that many still live close to the land, and have developed specific knowledge to care for and respect the environment (Borrows 1997). It is significant to note that many community authorities and forest workers have a general understanding of ecological processes. This knowledge has not only developed from previous experience in paid forest-related activities over several years - including logging and charcoal production - but also from 'informal' activities such as hunting, cutting firewood, and gathering botanicals for sale or domestic use.

4. *Forest diversification and trade.* Some communities are also aware that favourable prices are not enough to avert the tragedy of the commons (Sarukhán and Larson 2001). Forests are important to their inhabitants in diverse ways, not just as a source of commercial timber or as a contentious point of rural conflict. Mexican forests, for instance, also provide construction materials for local dwellings, are the source of many edible plants and medicinal herbs, and can help sustain livelihoods by sales of forest products and services. Yet many communities are not just relying on roundwood or sawn lumber sales, but rather recognize that diversified activities are fundamental to economic success, as well as contributing to environmental and cultural wellbeing.

In Santa Catarina Ixtepeji and Pueblos Mancomunados of the Sierra Norte, for example, earned (and most importantly, shared) income from primary and secondary wood production is being supplemented with wild mushroom exports to Japan, bottled spring water for regional consumption, and even ornamental plants for specialized markets in Oaxaca. Non-timber (or nonfibre) forest products (NTFPs) are mainly low-impact, while providing opportunities for community residents to get involved and earn extra income. It may be true that over-harvesting of NTFPs causes more degradation than timber under either government or community forest management systems in countries such as Nepal (Pandit and Thapa 2004). In contrast, however, some communities in Oaxaca such as Ixtepeji are carefully managing NTFPs with bio-monitoring programs to ensure sustainable harvest levels are achieved. For instance, sample plots of pine mushrooms (*hongo blanco*, or Matsutake) and other forest vegetation have been established and monitored on an annual basis. Hopes are also being placed on forest certification to guarantee some communities a fair share of domestic and international markets.

On this last point, and as this research has found, many Sierra Norte communities are capable of modern, sustainable forest management. Indeed, some are positioning themselves to enter domestic and international markets "when their own capacity to produce the quality and quantity required is reached, or when regional buyers begin to actively seek certified timber" (Robinson 2000b:31). No reason exists for the social and environmental potential of common pool resources to be limited to subsistence economies. Trade opportunities should be linked to an expanded global market for indigenous, sustainably produced products (both timber and non-timber), and supportive institutional and financing arrangements put in place for more communities to gain entry into niche markets and succeed.

DISCUSSION AND RECOMMENDATIONS

Admittedly, the communities selected for this "thick case study" may not be typical, even for Oaxaca, but they at least indicate the viability of alternative development trajectories. They show that with adequate access to resources, supportive policies and programs, and transferable technical assistance, rural poor in developing nations can engage in direct (often democratic) actions to protect and improve the environment.

While useful, Ostrom's institutional choice perspective for common property systems could be improved upon by greater attention to community-specific socio-political, traditional, and historical circumstances. Common property literature has rarely examined such community enterprises operating in the marketplace on the basis of a common property resource. The Community Forest Enterprises (CFEs) in Oaxaca and other parts of Mexico are unique to the common property literature; in many cases, they do not operate as a cooperative within the community, but rather comprise the community *itself*. As described in this paper, Oaxaca's common property forest arrangements are bound by more than collectively agreed upon institutional rules and norms. Instead, they are deeply embedded in a network of political, socio-cultural, historical, economic, tenurial, ecological, and other rich ties. Such linkages are not easily explained by communal rules or formalized decision-making processes based on a cost-benefit rationalization of alternatives. Localized or "traditional" (recognizing that traditions change) roles and responsibilities continue to help shape Mexican indigenous identities that extend far beyond routine political realities. As explained above in common property success factor 3, they incorporate ethnic customs, kinship, family, history, land, spiritual, and other key facets that ultimately determine how community forest governance will evolve.

This research has found that communal-familial-traditional values and priorities may trump commercial forestry considerations, even at the expense of jobs and profits. An example serves to illustrate this last point. One SEMARNAT official interviewed affirmed that Ixtepeji could not carry over any unmet annual allowable cut (allowable volume of wood to be harvested); for 2002, this amounted to about half (7,000 cubic meters) of their potential cut that would be "lost" in his words. When I mentioned this comment to an Ixtepeji authority, he replied, "We haven't lost anything. The trees are still standing."

It is a subtle point that certain *non*-common property aspects are more important to these communities. For instance, the community will stop all logging, milling, and hauling activities during times of traditional fiestas that may span several days, even weeks, even though climatic conditions might be quite favourable with authorized approval for forestry operations. The importance of fiestas and other cultural events cannot be easily measured or categorized as institutional choice rules. In another example, the community may simply feel that too much wood is being cut, even though the legally authorized volume has yet to be achieved. This may be related to notions of TEK as described above. In more industrialized contexts, such attitudes and (in)actions might be frowned upon, even sanctioned for "inefficient" wood use. Conversely, some forest communities such as Ixtepeji view logging as an alternative source of income that should not dominate or preclude other cultural and ecological functions. These are a few of the reasons why Ostrom's institutional choice approach, while not without significant merit, cannot be applied in its entirety to forest-dependent communities of the Sierra Norte.

Yet, common property successes and definitional challenges aside, deforestation continues unabated in much of Mexico. Today, most communities with forests still have no formal management strategy. For positive common-pool system experiences to be emulated throughout the country and elsewhere, more research, extension, and application of their successes are essential. Hence, several recommendations for strengthening common property forest regimes are outlined here.

First, adequate political and legal incentives to better manage common pool forests are needed. If such incentives are lacking in local contexts, then state, federal, and international institutions should be approached for support. These will be government-based agencies for the most part, but the non-profit and private sectors (e.g., legal aid offices, forest technical service providers) could also offer some assistance. For government offices, protection and management of forests should be considered at least on par with agricultural policies, and prioritized in areas of high biodiversity and socio-economic dependence on forests. Both social and environmental wellbeing throughout Mexico's forested regions depend on adequate government assistance to deal with uncontrolled or illicit cutting of trees. Existing forestry and environmental laws need greater enforcement to deal with uncontrolled or illegal forestry practices. This is imperative at all levels of government: federal, state, and municipal.

Second, rural people who depend on communal-based forest tenure systems must be treated on an inclusive, democratic basis to improve their forest management practices. Ideally, they would be provided with adequate training opportunities by civic, private, and state institutions to better manage community forests and help generate additional incomes. At present, many of Mexico's forest-based communities are ignored by state agencies. This is particularly the case among those that are relatively isolated or are perceived to be problematic, such as those typified by illegal logging or land tenure conflicts. Yet, if Mexico's forests are to retain predominantly communal ownership and sound environmental practices are desired, mechanisms to improve forest practices (e.g., short courses offered in forest administration and satellite-based land-use mapping) and resolution of land conflicts must be treated as crucial deliverables by public and private forestry agencies. Support for transparent and effective local governance should also be prioritized, with political restructuring at municipal and state levels in particular, to facilitate democratic forest administration.

Third, if the aim is to attain greater local self-sufficiency, then fair trade in locally produced, sustainable forest products should be encouraged and facilitated (Taylor 2003). This can be done by several mechanisms. Financial support could be offered such as favourable loan and tax arrangements for forest micro-enterprises (e.g., communally-managed pine resin distilleries, value-added carpentry workshops that utilize low-grade wood, ecotourism development and marketing). Government agencies could collaborate with forest communities on organic certification and other related schemes for both timber and non-timber products. Education and marketing programs could be implemented to raise domestic and international awareness about forestry goods that have been sustainably produced by rural people.

CONCLUSION

A central concern for this paper was whether collective (i.e., democratic) decision-making in common property forest systems could be feasible in the face of mounting pressures for land privatization and trade liberalization. A thick analysis of common pool resources was employed by examination of socio-political, trade, and legal change in Mexico's forest sector.

The first question addressed was how certain institutional mechanisms, such as changing democratic processes, forest trade rules, and government policies, have affected common property forestry systems. Specific institutional mechanisms in Mexico have included SEMARNAT, CONAFOR, and the CEC. In addition, many significant and beneficial environmental and forestry reforms have occurred throughout the twentieth century, culminating in the transfer of private forest management to *ejidos* and *comunidades* in the 1980s. Much to the surprise of some analysts, recent changes to Mexican land tenure systems and the country's inclusion in NAFTA have generally not weakened common property forestry arrangements (Bray et al. 2003; Sarukhán and Larson 2001). Instead, and in spite of the current neoliberal policies that Mexico has been aggressively pursuing, many common property forest communities are collaborating with forest-based government and nongovernmental institutions under the new "rules of the game." Conversely, international and domestic trade policies that have increased cheap wood imports or forced formerly self-sufficient rural families to abandon their farms and migrate elsewhere in search of better opportunities have most certainly had some negative impacts on Mexican forest-dependent communities. Still, as described above, innovative pro-trade interests such as forest certification programs can work to enhance social, ecological, and economic benefits. Many analyses of common property systems have hitherto ignored such positive impacts of trade arrangements (e.g., Ostrom 1998; Sarukhán and Larson 2001).

The second question was whether common property forestry regimes in Mexico have led to increased environmental sustainability and democratic management. Several examples from the Sierra Norte of Oaxaca illustrated that environmental sustainability and democratic management have indeed been enhanced through common property forest systems. These selected cases were deemed successful on the basis of four interrelated factors: cooperative mechanisms, environmental awareness, forestry experience, and forest diversification and trade. Finally, three recommendations to continue such successes were provided: favourable forestry policies and legislation for forest protection, supportive mechanisms for effective community governance, and fair trade in forest products and services to encourage self-sufficiency.

We should take care not to romanticize communities. Community-based forestry decisions are not always the most ecologically sound ones, whether inclusive approaches are taken or not. However, market-oriented policies without local support or lacking sound management practices can lead to diminished natural resources, increased political instability, and worsened poverty. When rural people are ignored, they are often left with little alternative but to exploit the land and its resources to the hilt. In this context, Hardin may be right. Still, we cannot pin the blame entirely on marginalized forest-based people. Corruption, *caciquismo*, and clientelist politics have taken their toll in Mexico. Local expressions of democratization are not only shaping environmental policies and forestry practices in Mexico's current pro-trade context, but may in fact preclude environmental sustainability. Responsible forestry that strives to serve a greater number of citizens, yet ultimately protects and nourishes the environment for future generations, is only possible through democracy. Just how democracy is to be defined and implemented is another question. At the very least, democratic examples already exist in some of Mexico's fragile forested regions, and are boldly spreading roots for a greener, shared tomorrow.

CHAPTER 4: POLITICS IN THE WOODS: ECOLOGICAL DEMOCRACY IN MEXICO'S COMMUNITY FORESTS

INTRODUCTION

While much has been written on common property systems and social forestry (e.g., Ostrom 1990; Silva 1997), the democratic nature of forest management is not often considered. Significant evidence does exist, however, that large-scale commercial arrangements over forest resources may exclude people and communities from control, input, or even access to forests in many cases (e.g., Abardía Moros and Solano Solano 1995; Beckley 1996; Colfer and Wadley 2001; Lipschutz and Mayer 1996b; Nguiffo 1998; Silva 1997).

At least three social ramifications can be noted concerning prevailing forest arrangements. First, as has been pointed out more generally through literature on staples theory, commercial exploitation of resource-based commodities such as fish and timber do not always serve the best interests of local residents (see, e.g., Laxer 1991). Market instability of resource commodities and absentee ownership of forest industries typify boom-bust economies, and may result in unexpected job losses and other negative impacts (Beckley and Krogman 2002; Freudenburg 1992; Marchak 1983). Moreover, prevailing land tenure agreements can reinforce unequal power arrangements, further restricting the potential for citizen participation (Beckley 1996; Gaventa 1980). Second, no matter how sophisticated forest science and engineering has become, long-term impacts on the environment from large-scale forest harvesting are still uncertain, and environmental risks and uncertainties may impose negative impacts on local residents (Bullard 1993; Cole and Foster 2001; Szasz 1994). Third, existing political, economic, and scientific institutions, including those involved with natural resource management, tend to disregard local, layperson, or indigenous forms of environmental knowledge (Berkes 1999; Fischer 2000; Klooster 2001; Michon 2000; Wiersum 2000). Such shortcomings have led many scholars to believe that community forestry could be an alternative to corporate models for both local participation and environmental wellbeing, particularly in those areas inhabited by indigenous peoples.[17]

Using community-based forestry as an empirical lens, the central purpose of this paper is to examine the poorly understood nexus between environmental conditions and democratic governance, or what has been termed as "ecological democracy." Two questions guide this research: 1) Has there been local political mobilization in response to changes in forest management regimes?, and 2) what democratic and environmental themes illustrate ecological democracy as related to indigenous forms of forest management?

Following this introduction, I review some theoretical premises of ecological democracy and community forestry, and then provide a description of my research methodologies for this study. A brief account of community forestry development in the state of Oaxaca in southern Mexico follows. The next section is an empirical evaluation of democratic and environmental themes and relevant factors in two indigenous communities of the Sierra Norte. Next, I discuss key comparative points from the findings that address the two research questions. Finally, I conclude that this research lends credence to the relevance of ecological democracy as a field of further study.

ECOLOGICAL DEMOCRACY, COMMUNITY FORESTRY

Since the early 1990s, an extensive body of literature has been published on green politics and ecological thought, including constructs such as radical ecology, ecofeminism, sustainable development, and ecological democracy. The latter is a relatively new term that not only highlights the means by which rapid environmental changes pose significant problems for existing democratic structures; it also prescribes alternative decision-making processes more conducive to ensuring ecological wellbeing (Dryzek 1997; Faber 1998; Gaard 1998; Goodin 1992; Mason 1999; Morrison 1995; Torgerson 1999).

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[17] The use of "corporate" for the purposes of this study is synonymous with large-scale, private (or parastatal) forestry enterprises.

For this study, the term ecological democracy refers to an alternative democratic model characterized by two ideal conditions: 1) It genuinely strives to incorporate all interested citizens into environmental decision-making, and 2) it lacks structural features that systematically concentrate environmental amenities into the hands of particular social groups, while imposing ecological degradation on others. Other normative elements include widespread citizen support for ecological sustainability and inclusive, equitable, and meaningful participation of actors that cut across social and geographical strata. Ecological democracy has been further explained using a series of facilitating and hindering factors in concurrent research by the author.

While little scholarly work exists on forestry relative to ecological democracy, one might expect that community-based forest management could serve as an ideal case of ecologically beneficial and democratic decision-making (see, e.g., Clogg 1998). Community forestry is of particular relevance to indigenous peoples, many of whom base their livelihood on forest access and use (Dwivedi 2001; Nguiffo 1998). Although indigenous peoples may have a vested interest in the sustainability of those resources upon which they depend, few cases exist where indigenous communities own and control local forests.[18] Likewise, few avenues may be available for them to voice their dissent and achieve meaningful change. Yet indigenous peoples are not exempt from mounting critical awareness that certain industrial operations have caused social and ecological harm (Hindley 1999). Lacking opportunities for meaningful participation in resource management, indigenous peoples may also mobilize for rights that extend beyond localized realms to national and even global spheres of influence (see, e.g., Taylor 1995).

While community-managed forests may potentially serve as democratic alternatives to corporate forestry (Beckley and Reimer 1999; Bray 1991; Bray et al. 2003; Fletcher and McGonigle 1991; Klooster 1997, 2000), governments are less likely to encourage community forest operations due to perceived inefficiencies, lack of capital, and inadequate technical experience, among other reasons (Luckert 1999). This is not only true for developed countries with privatized forest industries, but also for regions where land tenure and socio-cultural relationships are distinctly communal. Two cases in point are Indonesia and Brazil. In spite of having many diverse indigenous peoples that rely on forests for survival, both countries have given primacy to export-driven, corporate forestry (Braga 1992; see also, Colfer and Wadley 2001; Miyasaka Porro 2001). Brazil's long history of extractive economies, in particular, has caused both environmental destruction and the subsequent impoverishment of human communities (Bunker 1985).

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[18] One good exception can be found in Bolivia, where members of the Yuqui Indians have experienced success with community forestry (Enever 2002).

Could communal forest management help achieve ecological democracy? The answer is far from straightforward. On one hand, a community forest differs from large-scale, corporate forestry models since normally the eligible voting members - citizens and/or local authorities from the area in question - collectively decide how the forest will be managed. In exceptional cases, communities may even own the forest landbase. The fact that relationships among *campesinos* in certain indigenous regions are often reciprocal and cooperative (see, e.g., Cohen 1999) may also benefit local forest management. Indigenous peoples may also contribute important sources of knowledge and experience - traditional, historical, communal, spiritual, folk art, etc. (Berkes 1999; Carruthers 2001) - to forest management decision-making. On the other hand, certain demographic features may limit eligibility criteria for locally based resource decision-making. One's gender, religion, proprietary rights, or residency status may affect eligibility for leadership roles or even participation in community meetings (see, e.g., Vázquez García 2001). Likewise, indigenous forestry operations are not exempt from poor managerial practices, conflict, and corruption (e.g., Klooster 1997), and may not be any more ecologically beneficial than corporate forestry alternatives.

These are important considerations for weighing the merits of diverse forest management regimes where indigenous peoples reside. The premise for this paper, then, is that community forestry can serve as a forum in which interested citizens (indigenous in this case) are integrated into, ideally, ecologically sustainable and equitable decision-making, or ecological democracy.

RESEARCH METHODOLOGY

This research was structured as a comparative case study to examine the complexities of ecological democracy in community forest decision-making by indigenous peoples. At least three reasons stand out for selecting indigenous Mexican forest communities.

First, Mexico's diverse environments range from radically altered landscapes (e.g., massive deforestation and soil erosion) and severe industrial pollution (e.g., *maquiladora* sector along the northern border) to unique forms of communal land ownership. Pressing socio-economic circumstances faced by many indigenous Mexicans may jeopardize environmental health and diversity, putting any conception of ecological democracy to the test.

Second, Mexico's long-standing authoritarian rule has restricted democratic privileges for rural and urban people alike (Davis and Brachet-Márquez 1997; Fox and Hernández 1992; Rubin 1997). The 72-year, one-party reign of the Institutional Revolutionary Party (PRI) ended with the election of Vicente Fox's National Action Party (PAN) in 2000, although the former national party still wields substantial power in several states such as Oaxaca. How national democracy could flourish under such inauspicious conditions is open to question, and uncertainties also exist about democracy's consolidation at more localized levels where, for example, indigenous peoples' rights have often been ignored or abused (Bonfil Batalla 1996; García-Aguilar 1999). Probing democracy in such a wide-ranging context from corporatist-authoritarian to indigenous governance could reveal important structural features relevant to ecological democracy.

Third, Mexico's forests are home to 17 million indigenous people, and many of these have established common-pool resource management practices that are far more advanced than in most other regions of the globe (Bray et al. 2003). In sum, Mexico's threatened ecological diversity, historically adversarial democratic circumstances, and a significant proportion of its forests under indigenous management make this region a worthy place to examine ecological democracy.

Fieldwork took place from May to December 2002 in the Sierra Norte of the state of Oaxaca, southern Mexico (see Appendix 3). Oaxaca is one of the poorest states in Mexico and among the top five forest producers with more than 50% of the economically active population involved in natural resource extraction - i.e., agriculture, silviculture, farming, fishing, or forestry (INEGI 2000). The Sierra Norte has among the most successful examples of indigenous community forestry in Mexico (Alatorre Frenk 2000; Bray 1991; Chapela 1999; García Peréz 2000).

For comparative purposes, at least two indigenous communities were selected based on five inclusion criteria: 1) Relatively similar geographical, biological, and socio-cultural aspects (e.g., residents of Zapotec indigenous origin living near pine-oak forests); 2) Forest access and use important to the community; 3) Recent attempts to manage forests according to strict ecological principles; 4) Relatively high communal involvement or political activism in forest-related affairs; 5) Communal authorities and residents expressed willingness to participate in this study.

After visiting several indigenous communities that partially met the above conditions,[19] two communities were selected. These were Santa Catarina Ixtepeji and Santa María Yavesía, which belong to the district of Ixtlán, in the Sierra Norte region north of Oaxaca City (see Appendix 4). Ixtepeji was chosen for its reputedly high-quality forest management, whereas Yavesía represented a contrasting situation of intense socio-political conflict regarding attempts to conserve forest resources. These communities do have some structural differences: the municipality of Ixtepeji controls its own forests, while Yavesía shares its landbase with other towns and villages. Still, Yavesía's long struggle to manage its forestland on presumed ecological grounds renders this community an important case for comparison. Although studying other communities in the region and in Mexico would have been useful, time was limited to eight field months, and the complexity of the research subject matter made it essential to focus on a small number of cases.

Research time was divided between Ixtepeji, Yavesía, and Oaxaca City, with some interviews held in Mexico City. Home stays were arranged with local families, which helped build trust and provided additional insights into family and community customs (for further details, see Mitchell 2004). Data collection techniques included collection of secondary information, participant observation, attendance at conferences and roundtable discussions, and personal semi-structured interviews. Participant observation activities included planting trees, helping in forest inspections, attending community forestry meetings, and talking with community residents and outsiders (e.g., tourists, researchers, government officials). Additional data collected included newspaper clippings, maps, civic or communal documents, books, and videos. Several visits to other forestry communities in Oaxaca were also carried out for comparative purposes.

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[19] These towns included Ixtlán, Nuevo Zoquiapan, San Felipe el Agua, San Pedro Cajonos, UZACHI (La Unión de Comunidades Forestales Zapoteco-Chinanteca), Pueblos Mancomunados, and Zacatepec. Some sites in the Sierra Sur and Chimalapas regions were experiencing severe conflict during 2002, making it generally unsafe for research.

In total, 51 semi-structured interviews were conducted (see Table 4-1). Most were held in Spanish (45), and six were held in English. Interviewees were purposefully selected by a "snowball technique," in which initial interviewees inform the researcher of other likely candidates, and then these do the same, and so on. A loosely structured interview guide was used (see Appendix 2) and most interviews were audiotaped. Most interviewees had some understanding of forest management and/or Oaxacan local politics, and were employed in community governance (29%, n=14), industry (18%, n=10), non-governmental organizations (NGOs) (14%, n=7), federal or state agencies (12%, n=6 and 6%, n=3 respectively), or academia (8%, n=4). Those without a professional interest in environmental matters and/or community governance were classified as "ordinary citizens" (12%, n=6). Most interviewees were living in Oaxaca City (45%, n=23), Yavesía (20%, n=10), or Ixtepeji (20%, n=10). About 14% (n=7) were foreigners in one of three categories; relatively recent émigrés, living in Oaxaca for an extended period of time, or former residents of Oaxaca.[20]

The average age of interviewees was relatively high (45.9 years). Although older individuals were not purposively targeted, I did select for individuals with substantial knowledge and experience in rural Oaxaca, most of whom tend to be older. Many were agency leaders, high-ranking academics, or distinguished local citizens. Concerning residency, the high number of interviewees living in Oaxaca City is somewhat misleading since many originated from the study sites or other rural areas. As for gender disparities, admittedly few women were interviewed (14%, n=7). Female residents often confessed to a limited understanding of the forest sector and suggested that their husbands be interviewed instead. The low number of women willing to be interviewed, or who met the interview selection requirements (i.e., knowledgeable in forest management and/or community politics), was indicative of the fact that female participation is rarely encouraged in local forestry.

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[20] One interviewee was an Ixtepejano who resides in Oregon for most of the year.

TABLE 4-1. SUMMARY OF INTERVIEWEE ATTRIBUTES

Key Attribute	Number	%
Age (average years, n = 49)	45.9	
Occupation (n = 51)		
Community leader	14	29.4
Industry (forestry or other)	10	17.6
Non-governmental organization	7	13.7
Ordinary citizen (retired, housewife, etc.)	6	11.8
Government agency - federal	6	11.8
Academic	4	7.8
Government agency - state	3	5.9
Media	1	2.0
Gender (n = 51)		
Male	44	86.3
Female	7	13.7
Residency at time of interview (n = 51)		
Oaxaca City	23	45.1
Yavesía	10	19.6
Ixtepeji	10	19.6
Mexico City	4	7.8
Other cities (Oaxaca)	2	3.9
Other cities (foreign)	2	3.9
Nationality (n = 51)		
Mexican	44	86.3
Other	7	13.7

Interviews were later transcribed into a word document, then coded and analyzed with the qualitative software QSR NVivo 2.0. The main categories were Community, Democracy, Ecological Health, Forest Management, History, and Institutions. A total of

144 "nodes" (subcategories) were generated and relevant phrases from the 51 transcripts were placed in each node. For example, node 85 - "Democracy/Equality/Gender/ Women's degree of participation/No or little involvement" - contains remarks on exclusion of females from communal decision-making. A total of 15 interviewees made comments specific to this node, such as "The men don't allow us [to go to the assemblies]. A woman isn't accustomed to participate [in communal decision-making] here. We dedicate ourselves to the kitchen, to washing clothes" (Ixtepeji resident). The coded results were then compared by certain attributes, including gender, residency (Ixtepeji, Yavesía, Oaxaca, Mexico City, foreigner), and occupation (leader, worker, citizen, industry, government or NGO official, academic). Most important among these were comparisons among persons knowledgeable about either or both communities, as well as comments from experts in relevant socio-political and environmental issues.

THE RISE OF COMMUNITY FORESTRY IN OAXACA

Constitutional property rights over the territories of indigenous communities and *ejidos* (collective farms) were established at the end of the Mexican Revolution (1910-1917), including the forest and soils (Chapela 1999).[21] The Mexican government began to establish Forest Exploitation Industrial Units (Unidades Industriales de Explotación Forestal, or UIEFs) in the 1950s, however, clearing the way for large-scale forest concessions to harvest commercially valuable forestland. Shortcomings of this type of forest management have been extensively discussed by many authors (e.g., Bray 1995; Bray and Wexler 1996; Chapela 1999; Klooster 1997). For example, restrictions were often placed on local collection of firewood. Forests were severely degraded by "high-grading," or selectively removing the biggest and healthiest trees of the most valued species. Tree planting was rarely done since it was believed that young, understory pine would grow once a few trees were removed. Communities received few or no social benefits that were promised them. As one interviewee for this research complained,

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[21] Mexico's two types of social land tenure include the *ejidos*, in which land was allocated to a group of people who jointly share the land rights, and *comunidades* (or indigenous communities), in which the state recognizes a community's ancestral rights to land that they had occupied before colonialism.

> "For 30 consecutive years, dominated by the forest concessions, ... forest harvesting methods were exactly the opposite [of what they should have been]. The best of the forest was taken and the worst left behind. We had very high quality wood that was being used for firewood and paper." (NGO representative, Oaxaca)

In 1968, 14 communities protesting against mistreatment of their communities and their forests in the Sierra Norte of Oaxaca led to a five-year boycott of a state-owned (parastatal) paper factory (Bray 1991; cf., Chapela 1999). Continued activism in the 1970s and early 1980s eventually bore fruit for communal forest control. Despite the efforts of corporate forestry enterprises of Oaxaca to have their concessions reinstated for another 25-year period, in 1986, the national forestry law was changed to transfer forest use rights back to their original owners. As one interviewee asserted,

> "This gave power to the social sector. ... The forest industrialist, the wealthy Mexican owner, had to go and ask permission [to log community forests, and] to negotiate with the community leader of communal resources that may not even know how to write. ... This is very positive *because it's democracy*. Prior to this, the industrialist only had to speak to a state governor who treated the communities as if they were his." (NGO employee, Mexico City; emphasis added)[22]

This transfer of forest management to Mexico's indigenous communities and *ejidos* after years of struggle was nothing less than revolutionary. Although its ramifications have yet to be fully studied and dispersed, it demonstrates that political mobilization for local control of natural resources was ultimately triumphant at a national scale. Notable research that illustrates this success has been conducted by, among others, David Bray (1991, 1995; Bray and Wexler 1996; Bray et al. 2003), Dan Klooster (1997, 2000, 2001), Pete Taylor (2000), Daniel Jaffee (1997), Peter Wilshusen (2002), Gerardo Segura (1996), Camille Antinori (2002), Leticia Merino (1997), Gerardo Alatorre Frenk (2000), and Francisco Chapela (1999). Since much of this work has concentrated on institutional rules and practices, and the transfer of forest management responsibility is relatively recent, further research is needed on the socio-political and ecological sustainability of community forestry. With an estimated 80% of its forestlands in the hands of communities and *ejidos*, and approximately 740 Community Forest Enterprises (CFEs) (Bray and Merino-Pérez 2002), Mexico has among the world's largest proportion of communal forest management (Bray et al. 2003). While still representing a minority of forested regions in Mexico, numerous communities have successfully established CFEs in the states of Oaxaca, Michoacán, Quintana Roo, Durango, and Chihuahua. Approximately 8,000 communities in Mexico have forests on their lands, although no more than 12% are legally engaged in forest commercialization (pers. comm., J. M. Torres-Rojo, September 25, 2002). Some parts of Oaxaca are especially notable in this regard, with a number of indigenous communities benefiting from active local forest management.

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[22] CCMSS is the Sustainable Silviculture Council of Mexico (*Consejo Civil Mexicano para la Silvicultura Sustentable*), a Mexico City-based NGO focused on forest certification, forest policy, and environmental services.

CITIZENSHIP AND FORESTRY IN IXTEPEJI AND YAVESÍA

The municipality of Ixtepeji has 2,532 inhabitants (INEGI 2000), and is located about 35 km from Oaxaca City. The municipality of Yavesía, located about 60 km northeast from Oaxaca City, has 460 inhabitants (INEGI 2000). Even though they are close to Oaxaca City, both communities are relatively isolated due to poor transportation and communication services. At the time of data collection in 2002, both communities had only one public telephone with poor connection service, and public transport was mainly limited to one daily busload of passengers. It took almost four hours to reach Yavesía due to poor road conditions (see Ron Mader's "Santa Catarina Ixtepeji Guide" at http://www.planeta.com/ecotravel/mexico/oaxaca/ixtepeji.html and "Santa María Yavesía Guide" at http://www.planeta.com/ecotravel/mexico/oaxaca/yavesia.html for more details).

Most residents are of Zapotec origin, one of 17 distinct indigenous cultures of Oaxaca (with over 200 dialects), although Spanish is the language most frequently spoken. Besides their forest-related activities, residents base their livelihoods on the cultivation of maize, beans, squash, and wheat, and many produce cattle, pigs, goats, rabbits, or poultry.

Table 4-2: Ixtepeji and Yavesía, Comparison of Key Census Indicators*

Census Indicator	Ixtepeji		Yavesía	
	Total	%	Total	%
Population				
Male	1265	50.0	217	47.2
Female	1267	50.0	243	52.8
Total	2532		460	
Age				
< 30 years		60.1		51.5
30-64 years		30.0		33.5
65 years and over		9.9		15.0
Mean age		28.5		32.7
Residency				
Native born	2485	98.1	424	92.2
Employment (12 years and over)**				
Economically active	794	43.2	122	34.7
Primary sector	503	65.4	78	63.9
Secondary sector	115	15.0	27	22.1
Tertiary sector	139	18.1	16	13.1
Education and Literary (15 years and over)				
Finished high school	198	11.8	28	8.9
Illiterate population	109	6.5	30	9.5
Language (5 years and over)				
Speak indigenous language only	152	6.7	127	31.1
Speak Spanish and indigenous language	148	6.6	124	30.3
Religion (5 years and over)				
Catholic	1635	72.5	389	95.1
Other or no religion	619	27.5	20	4.9
Households				
Total number of occupied houses	560	-	126	-
Average number of occupants	4.5	-	3.6	-
Houses with earthen floor	319	57.0	53	42.1
Houses with sewage drainage	143	25.5	35	27.8
Houses with electricity	540	96.4	123	97.6
Use firewood for cooking	450	80.4	112	88.9
Have a vehicle	101	18.0	7	5.6
Have a television	241	43.0	65	51.6

Adapted from XII Censo General de Población y Vivienda 2000, INEGI.

***Primary sector* includes agriculture, ranching, forestry, fishing, and hunting; *secondary sector* includes mining, energy, manufacturing, construction, and electrical; *tertiary sector* includes commerce, tourism, and services.

Several statistics on Ixtepeji and Yavesía taken from the 2000 Census (see Table 4-2) illustrate the relative homogeneity of both communities by race, class, residency, religion, and gender. A few differences are worth noting. While Ixtepeji is evenly split by gender, Yavesía has slightly more females (52.8%), perhaps due to greater emigration of males in search of work. Several interviewees estimated that over half of Yavesía's population reside in other Mexican cities or have migrated to the United States. Ixtepeji is comprised of a slightly younger population (mean age of 28.5 years, with 60.1% under 30 years) compared to Yavesía (mean age of 32.7 years, with 51.5% under 30 years).

More Ixtepejanos are gainfully employed compared to Yavesía citizens (43.2% and 34.7% respectively). The primary sector is the main source of employment for both communities (65.4% and 63.9% respectively), which includes work on their farms and forests. Fewer people in Ixtepeji speak an indigenous language compared to Yavesía (13.3% and 61.4% respectively), attesting to the continued importance of the Zapotec culture in the latter community. Although church services are infrequent, more persons in Yavesía identify themselves as Catholic (95.1%) compared to Ixtepeji (72.5%), bearing out the rising prominence of Protestantism in the latter municipality.[23]

Both communities are relatively non-stratified by class. Namely, most families are subsistence farmers and poverty is widespread. Ixtepeji and Yavesía households use mainly firewood for cooking purposes (80.4% and 88.9% respectively), and only about a quarter of their homes have sewage drainage (25.5% and 27.8% respectively), although more Ixtepeji houses have earthen floors (57.0%) compared to Yavesía (42.1%). Few families currently residing in either community could be considered as "middle class," and probably none is prosperous by Mexican standards. For instance, if middle class attainment could be defined by vehicle ownership (18.0%, or n=101, of Ixtepeji households and 5.6%, or n=7, of Yavesía households) or telephone ownership (0.2%, or n=1, of Ixtepeji households and 2%, or n=1.6, of Yavesía households), then the majority of citizens are poor. Those fortunate few with vehicles share their use with other community members. Like many Oaxacan indigenous communities, it is difficult for individual wealth to accumulate since those with money are expected to contribute more for cultural events. To be considered a community member in good standing, even those who permanently emigrate are expected to send money to their families left behind and to support annual fiestas (see, e.g., Cohen 2002). These remittances and cultural obligations, combined with the stigma attached to having too much money (not unlike the potlatch system of aboriginal peoples along the North American Pacific Coast), tend to redistribute wealth within each community.

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[23] The growing number of Protestants in Ixtepeji was a concern in the 1960s and 1970s. Many Catholics opposed Protestantism since "upon conversion, people stop drinking, and therefore stop participating in the various community and individually sponsored fiestas" (Kearney 1972:107). Protestants experienced severe social sanctions, including economic penalties, gossip, and ostracism. Most "sabadistas" (Seventh Day Adventists) were forced to live on small ranches such as Tierra Colorado and El Punto in the mountains near Ixtepeji (Kearney 1972).

BACKGROUND TO COMMUNAL FOREST USE

Although many key demographic features are similar, these two indigenous communities have taken distinct approaches to forest management. Ixtepeji is engaged in commercial logging practices, whereas Yavesía is determined to prevent commercial logging in areas they consider as their own forests.

From 1956-82, the parastatal Tuxtepec Paper Company, or FAPATUX, commercially harvested Ixtepeji's forests as part of its 25-year timber harvesting concession (SmartWood 2001). Ixtepeji regained forest control in 1983 and started experimenting with new silvicultural methods favouring pine regeneration and pathogen control (e.g., seed trees, tree planting, and other restoration activities). From 1989-93, Ixtepeji's forest operations were halted due to internal dissension amid accusations of financial mismanagement, as well as a boundary conflict with their neighbouring community of Nuevo Zoquiapan, but since then, their CFE has been functioning relatively smoothly.

Ixtepeji's community forested and unforested areas have a combined total of 21,107 hectares: 15,036 hectares are managed for timber and non-timber extraction (SmartWood 2001), and 4,225 hectares are currently protected for ecotourism, biodiversity, and water management Native pine is the only commercially important species, with oak and other species mostly used for local fuelwood needs. A total annual allowable cut of 12,900 cubic metres of pine and 3,080 cubic metres of oak can be harvested, but often less than this amount is cut. All forest-based activities are under the strict authority of the federal government. In 2001, SmartWood certified Ixtepeji's forests on behalf of the Forest Stewardship Council (FSC). Non-timber forest activities provide opportunities for all community residents to get involved and earn extra income. An ecotourism program begun in 1999 handles about 200 visitors a month. Other non-timber activities include collecting ornamental plants, harvesting wild mushrooms, bottling spring water, and tapping pine resin. Ornamental plants and spring water are sold in Oaxaca City, pine mushrooms are exported to Japan, and the resin is trucked to Michoacán for processing into various products. Chocolate, candles, flowers, and trout are also produced. Ixtepeji also works closely with institutions such as the National Forestry Commission (CONAFOR), the Ministry of Environment and Natural Resources (SEMARNAT), and the World Wildlife Fund (WWF). Besides generating employment opportunities, forestry is now the community's largest income generator. Proceeds from forestry sales have allowed for investments in service provision (schools, roads, etc.) and social security payments to the elderly and sick. Moreover, annual profit shares are distributed to both workers and citizens.

In contrast to Ixtepeji's acceptance of community-based forestry as an economic sector (including tree harvesting and milling), Yavesía has vigorously opposed commercial logging of the local forests for over 50 years. Forests were mainly used for domestic purposes and trees were manually cut until the 1940s. Then, wood splitters, gas chainsaws, winches, and other modern machinery were brought in and Yavesians began to worry that the forests would be destroyed. In 1957, neighbouring authorities and a representative from the federal Agrarian Reform office pressured the Yavesía authorities to sign a Presidential Resolution of shared territory called Pueblos Mancomunados (literally "shared lands"), a 29,430-hectare landbase officially ratified in 1961. Pueblos Mancomunados is comprised of three municipalities - Amatlán, Lachatao, and Yavesía - and five smaller villages. Their CFE officially began in 1982, but much of the region was already selectively logged over during 1967-75 by the privately owned company Maderas de Oaxaca (Alatorre Frenk 2000:154-160).

Yavesians often refer to many frustrating years of negotiations with government agencies and their neighbouring communities:

> "The Agrarian Reforma [communal land title agency] didn't solve anything [and] the federal and state agencies approved the [forest] exploitation. The forestry work [of Pueblos Mancomunados] was poorly done. ... They cleared 70% of their forests so they went after Yavesía's forests. This caused a huge internal conflict, with kickbacks being offered from high above. As [communal lands] representative, I never accepted any money." (Yavesía resident)

During the early 1990s, Antonio Serrano, a self-proclaimed defender of Yavesía's communal resources, and several other residents were unhappy with the decision of their community *presidente* (mayor) to allow logging in what they felt to be their territory. Ultimately, Yavesía's dissenters hoped to force a meeting with the Governor of Oaxaca that would pressure the Agrarian Reform to divide up the land equally among the three municipalities. In 1991, Serrano invited ecological activists - the national group "Movimiento de 400 Pueblos," a *campesino* organization representing some 2,500 families from Veracruz under the leadership of Cesar del Ángel - to protect Yavesía's portion of Pueblos Mancomunados. Apparently, the activists held workers against their will at Las Vigas (Pueblos Mancomunados mountain sawmill). Angered at his "stirring up trouble" by bringing in outsiders, Serrano's own people fired shots and wounded him, and several ringleaders were held in the local village jail for a few days.[24]

In 2002, Yavesía took various legal actions and held logging blockades, leading to the temporary suspension of Pueblos Mancomunados' forest operations. Frustrated by their impasse situation, Yavesía and five other Oaxacan communities signed a document in June 2002, that stated in part "we see with sadness that the Agrarian Tribunal resolutions, far from resolving [these land conflicts, instead] generate more violence and death" (Teresa Pérez 2002).

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[24] He was later incarcerated in the Ixtlán village jail from 1996-98 and several of his supporters were forced out of town.

KEY FINDINGS

In this section, four key themes of ecological democracy are described in relation to Ixtepeji and Yavesía: on the democratic side, *local governance* and *equitable decision-making*; on the ecological side, *forest management* and *environmental awareness*. These four themes emerged from the data as the most relevant indicators of ecological democracy. Interviewees consistently discussed key components of each of these themes, and many drew important linkages among them as evidenced by some of the citations provided below. The guiding questions here refer to the first two listed in the discussion: which responses have local citizens taken, if any, to changes in their forest resource management regime, and what variations in democratic and environmental parameters illustrate ecological democracy? These questions have already been partially addressed in the aforementioned section, but will be more thoroughly explained here.

Local Governance

Local governance can be measured by selected characteristics of governing structures and leadership, electoral processes, decision-making arrangements, and activism. A general overview of governance in Oaxaca is provided for background purposes. Oaxaca has a total of 570 municipalities, many solely indigenous, and the largest percentage of land area under indigenous administration in the country (Government of Mexico 2000). In 1998, 418 (73%) municipalities were governed under traditional customary forms of government.[25] These communities choose their leaders through *usos y costumbres* (usage and customs), local practices rooted in indigenous systems of community service that give particular importance to the judgment of elders, open assemblies, and consensus (cf. Velásquez C. 2000). Indigenous forms of government include the *cargo* system, a hierarchy of civil and religious organizations. For access to government resources, however, these communities remain dependent on the PRI (Institutional Revolutionary

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[25] This number may seem high but it accounts for only 34% of the population of Oaxaca, and reflects the state's rural/urban political split.

Party) controlled political system.[26] According to some sources, this has enabled local political leaders to gain power and subvert community autonomy through manipulation (Government of Mexico 2000). Communities must govern themselves in accordance with state laws as mandated by the State Electoral Institute (IEE), and the 1996 Oaxaca Municipal Law Reform. Oaxaca is unique in this respect as the only state in Mexico to have introduced such a far-reaching municipal regulatory framework in favour of indigenous, local governance (Velásquez C. 2000). Flexible guarantees and guidelines for local electoral and administrative mechanisms are laid out. For instance, communities may decide to elect their leaders for one-, one and a half-, or three year-periods. They may also elect to govern themselves by *usos y costumbres* or by political representatives in a competitive party system.

Both Ixtepeji and Yavesía abide by the *usos y costumbres* system. By this system, all capable adult males from the age of 18 until 60 and who are registered citizens must participate in community leadership, attend community assemblies, and follow community rules and regulations. Leaders are encouraged to take on progressively more complex authority roles over time. Elections are usually held every three years, and each candidate represents himself on behalf of his village, not that of a particular party. Elections are conducted by a show of hands, with leaders elected by majority. Most residents feel that by participating in administration, they demonstrate a real commitment to serving their community. Not all feel this way, though. Some also state that "te chingan los cargos" (the cargos screw you) since the positions of governance are conducted without remuneration, or only a nominal amount may be paid, and hours of work are long. This can place a heavy burden on families to make ends meet.

Some interviewees felt that *usos y costumbres* are likely more democratic than the representative political system, given that they facilitate independence of external party lines and encourage local autonomy. They also allow for a greater number of people to participate directly in decision-making. It was also admitted, however, that potentially democratic conditions among smaller populations might not apply to larger, more complex communities. One interviewee expressed that the new political economy in Oaxaca favours market-based, individual decisions over household or communal ones. According to this non-resident, change is needed in the *usos y costumbres* system to address modern demands of regional, national, and global economies.

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[26] Although the federal elections in 2000 elected President Vicente Fox of the PAN (National Action Party), the state of Oaxaca continues to be governed by the PRI party.

There are some differences in forest governance leadership. For Ixtepeji, decision-making rules are mainly self-imposed and monitored, but overseen by an elected *Comisariado* (Head of Communal Resources) and other elected CFE administrators (e.g., treasurer, forest guardian, secretary, sawmill manager, woodlands manager, tree nursery manager, financial administrator, etc.). Administrative duties of a *Comisariado* involve careful monitoring and managing of communal lands, including sustainable utilization of resources such as forests and minerals (and human settlements to a lesser extent).[27] Ixtepeji's CFE structure resembles that of Pueblos Mancomunados (shared lands), although the latter has a permanent CFE director and is accountable to three municipalities. Yavesía's case for leadership is different, however. Most Yavesía authorities refuse to recognize the official *Comisariado* for Pueblos Mancomunados but rely instead on their elected communal resources "representative." During the 1990s, this person was the aforementioned Serrano, who was publicly accused of "caciquismo" (regional bossism) and replaced by Mauro Cruz Hernández in April 2002. For Yavesía, unlike the other communities that comprise Pueblos Mancomunados, their representative "protects their interests" with a view toward forest preservation. However, the fact that their representative is not officially recognized in the shared forest administration for Pueblos Mancomunados is problematic for Yavesía, since his decision-making power beyond the community's political sphere of influence has been contested by the other communities.

Apart from these leadership differences, decision-making arrangements are similar in the communities. Periodic assemblies and forest meetings in Ixtepeji and Yavesía typically consist of a few hundred (Ixtepeji) or few dozen (Yavesía) predominantly male citizens. Community assemblies are considered to have the maximum authority to inform, discuss, and debate key issues. To hold an official assembly, at least 50% of the registered *comuneros* (farmers with both private and communal land rights) must be present. Most attendees tend to be passive participants who listen to others clarify their position before casting their respective vote, usually by an open show of hands. It is not uncommon for those who try to dominate the debate to be shouted down by others. Unchecked parochialism and aggressive leadership may affect the terms and outcomes of debate, but poor leaders can always be sanctioned or removed.

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[27] This latter duty overlaps with municipality duties. Municipal authorities generally do not take responsibility for communal forest administration except in cases where such specialized arrangements for environmental decision-making do not exist.

In a few cases, an individual's opportunity to join the debate may have been suspended as a form of punishment (say, for someone who has illegally cut community trees), effectively silencing these outsiders from dissension. For example, in one communal assembly, I was witness to the punishment of an Ixtepeji *comunero* who had illegally bulldozed several hundred metres of pine-oak trees for a road to his *lote* (small plot of agricultural or grazing land; also called *predio* or *parcela*). His case was vigorously debated for hours until eventually it was decided to remove his *comunero* privileges for three years. In other words, he would have been unable to vote, participate in forestry governance, or share in any forest-derived economic benefits.

In the case of Yavesía, leadership change has increased possibilities for deliberative engagement in decision-making. Many felt that few opportunities existed to influence leadership during Serrano's "rule." Yavesía's protests against logging and Pueblos Mancomunados forest harvesting decisions were organized by a structure that some described as oppositional and autocratic, bringing democracy into question. Some Yavesians felt that they now engage more openly in discussions on political and legal strategies since Serrano's removal. Substantive issues discussed include what approach to take to defend their interests and which alternative activities to pursue to achieve both forest protection and sustainable livelihoods.

Likewise, community activism for local control of forests has been quite effective, especially for Ixtepeji and for Pueblos Mancomunados in the 1980s, although less so for Yavesía. On the other hand, some felt that the "new" community activist may not be promoting the future but attempting to return to a socialist, idealized past:

> "[These political activists] reject learning in the universities with an almost Marxist and Maoist rejection of modernism. They go back to their home communities … and they start agitating, organizing. Although they've had a modern education, their political legitimacy is based on tradition. They are saying, 'We have to resist modernism. We do it by re-vindicating the old system.' There's a whole new political class of activists that fit that mould." (Oaxaca academic)

Equitable Decision-making

Equity is an important aspect of any democratic system, and environmental decision-making is no exception (Melosi 1997). In theory, democracies are expected to allow for equitable input, procedures, and outcomes, although achieving equity is difficult, even in well-established, representative democracies. Thus ecological democracy can be evaluated on the basis of gender, race, class, residency, religion, and other such demographic characteristics. The exclusion of certain individuals or groups by any of these features would indicate a decreased level of democratic attainment, recalling that equitable decision-making is a key normative element in environmental decision-making.

For the purposes of this research, key findings relevant to gender are presented given its salience to the communities studied. As previously explained, the communities are relatively homogenous in terms of race, class, residency, and religion, so gender is the only real issue concerning decision-making.

Although Oaxacan women can vote in state or national elections, women are rarely formally included in Mexican political processes, and indigenous women even less so (Dalton 2003). Exclusion on the basis of gender is not just a problem at national and state levels, however. Governance in both Ixtepeji and Yavesía, like most Oaxacan communities, is marked by the persistence of historical political practices that exclude women. At a conference in Oaxaca City in 2002, Alicia Barabas, a local anthropologist, mentioned that only 35 women held positions of power in Oaxaca's approximately 2,600 communities.[28] In the 2001 municipal elections, only 10 out of 570 municipalities (1.7%)

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[28] This conference was the Welte V Simposio Internacional Bienal de Estudios Oaxaqueños, held July 4-6, 2002.

elected women as *presidenta*, or mayor (Dalton 2003). Many interviewees expressed concern about the lack of female participation in positions of authority and decision-making, a shortcoming that will eventually have to be addressed. This is already happening in certain Oaxacan communities. Some communities have had such an exodus of adult males in search of work elsewhere that a political vacuum is being taken up by women (Cohen 2002). Unlike in the party system, women do not have the right to vote in most villages. According to one interviewee,

> "democracy [by way of the] *usos y costumbres* system is actually an association of households, not individuals. The representative of the household is the one allowed to speak - you get a filtering up. In this case, the male head of household speaks [at village meetings]. Nobody else is allowed to speak. So theoretically, then, the will of the people is not the will of the individual, but the will of households. This is a minimal corporatist attitude - the household in the community … [in which] women are not allowed out of the domestic sphere." (Oaxaca academic)

Both communities fall far short of achieving gender equity in environmental decision-making. In Ixtepeji, some women participate as workers and even leaders in selected forest operations, including mushroom and ornamental plant collections, tree nursery management, and bottled spring water production. In Yavesía, women work in the spring water operation. Women do not work, however, as loggers, sawmill workers, carpenters, truck drivers, and other traditionally male-dominated positions, not even in Ixtepeji or the rest of Pueblos Mancomunados (one notable exception was a female welder that occasionally works in the Ixtepeji sawmill). Moreover, neither community allows women to work in positions of municipal or common property leadership.[29] Nor, for that matter, are women allowed to participate in community assemblies on forestry matters or to cast their vote to elect common resource leaders. At least five interviewees felt that involving women in decision-making would complicate matters, or regarded women as too emotional and taking stands without weighing the consequences. Instead, common property meetings and elections are "issues for men." For instance,

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[29] At the time of field research, the municipality of Lachatao in Pueblos Mancomunados had a female president.

> "[A] woman can elect someone, but there are more women then men here, so the women win [their choice of leader]. During 1990-95, [the women's preference for] authorities were elected and it was the time we got screwed. We couldn't continue in our struggle for the forest, because that was what the women decided. That's why [women] must only participate in very specific cases [in education, health, etc]. Big decisions have to be coldly made [by men]. … In political and judicial issues, we have to be careful and not let any woman shout out. … It's a man's problem." (Yavesía resident)

While most of those interviewed were more comfortable with men as key leaders and decision-makers in forest management, a few felt that greater political and management space should be opened to women. In particular, one young Ixtepejano authority made the following comment:

> "All the men participate [here in decision-making], but women very little, just in a few community projects. … We are now finding throughout Mexico that a woman can do a man's job, and perhaps even better. A man goes drinking but normally women wouldn't do that. So I believe they should participate, [but also] they should learn and know how the work is done. They think that we [forest authorities] are just driving around in the community truck.... Women participating now [in forestry decision-making] talk differently [with more respect for the work we do]." (Ixtepeji resident)

Forest Management

Given that many indigenous peoples have a vested interest in the sustainability of those resources upon which they depend, and that many consider multiple uses of forests, not solely timber, indigenous forest management systems could provide positive evidence of ecological democracy. While commercial forestry involves converting wood fibre into dimension lumber and chips, non-timber products and services are also important for many indigenous forest management systems. Mexican forests, for instance, also provide construction materials for local dwellings, are the source of many edible plants and medicinal herbs, and can sustain livelihoods through sales of botanicals (Carruthers 2001).

Resource use in both communities has shifted to diversify local economies and reduce environmental impacts, particularly in Ixtepeji. The community's forests are regaining health and quality after many years of degradation during the concession years, although average tree diameters remain small compared to the 1940s and 1950s (Mathews 2003). Ixtepeji's forests are certified by the FSC, arguably the most stringent forest certification scheme in the world.[30] Ixtepeji also takes full advantage of technology to improve administrative efficiency, such as their use of Global Positioning Systems (GPS) and Geographical Information Systems (GIS) for forest mapping and planning purposes. Severe sanctions are applied to those who abuse forest privileges. Finally, actual harvesting levels are almost always below the maximum annual allowable wood volume set by SEMARNAT.

Successes aside, many challenges remain. In Ixtepeji, at the time of data collection in 2002, certain technical deficiencies hindered profitability and managerial weaknesses were evident. Referring to technical shortcomings, at least two CFE authorities from Ixtepeji felt that too much of their timber harvested was sold as roundwood (over half of their cut volume by one authority's estimate). They felt this was due to several factors: insufficient sawmill capacity, lack of added-value processing equipment such as a dry kiln, and the need to shut down the mill operations for several months of the year due to rain or other priorities (e.g., fiestas). One interviewee suggested that more local processing of logs into dimension lumber would add value and offer longer periods of employment. The redistribution of profits among *comuneros* also led to shortfalls in equipment maintenance and replacement. On the positive side, according to the technical director for Ixtepeji's forest enterprise, significant progress has occurred in sawmill efficiency due to new equipment and improved work scheduling. For example, daily production in the community sawmill was 30-35 m^3 of roundwood in 2002, but this had increased to about 50-55 m^3 by 2004. In the last annual operating cycle (2003-04), about

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[30] Ixtepeji currently targets local and national markets for its certified wood products, although, until now, this has not generated additional income.

60-65% of all logs were milled and 15-20% were considered too small and sold as cellulose fibre. The rest (10-15%) was sawmill waste or pieces that were sold locally as fuelwood (pers. comm., Elfego Chávez, June 7, 2004).

Ixtepeji's second set of challenges, namely in forest management, revolves around the logging operations, biodiversity, worker safety, and administrative inexperience. Forest roads often suffer from inadequate drainage, although erosion does not appear to be a serious problem according to many interviewees, as well as from personal observations.[31] Indiscriminate animal poaching has negatively affected faunal biodiversity. For instance, deer hunting by local and non-local residents occurs even under constant community vigilance. According to some biologists and foresters interviewed, visitors to most forested areas of Oaxaca now rarely see white-tailed deer. However, many bird and animal species have recovered in recent years according to a Mexican biologist carrying out research in Ixtepeji's protected area during 2002. Moreover, forest workers lack medical insurance and rarely use safety gear such as hardhats. Lastly, the democratic replacement of forest administrators every one and a half to three years has led to a loss of continuity and experience.

Conversely, Yavesía has about 7,000 hectares of relatively untouched forests, according to one interviewee, which contain some of the largest diameter fir trees (*Abies* spp.) in Oaxaca. Several interviewees felt that *not* logging was a positive aspect: "various communities [like Yavesía] have never exploited their forests since they feel that leaving it in a pristine state indicates that they are taking good care of nature" (federal government official). Still, Yavesía has had its own share of forest problems, some of which stem perhaps from not commercially managing its forests in a formalized (i.e., technical) way. Although Yavesía's contested area is included in Pueblos Mancomunados forest management plan, Yavesía itself lacks an integral document.[32] Many outsiders feel that Yavesía must show how it intends to deal with fires, insects (mountain pine beetle outbreaks), firewood collection, charcoal production, and small-scale logging.[33] Yavesians feel that there is no problem with their "minimal" utilization of nearby forests. Most of the ten or so carpenters in Yavesía who make rustic pine furniture to sell in Ixtlán or Oaxaca say they do not use local wood at all, or cut only unhealthy trees in the local area. However, subsequent field inspections showed that some healthy pine and oak trees were being felled for carpentry and charcoal use. At present, municipal authorities only minimally control these activities under the rubric that *comuneros* have free access rights. Authorities mentioned that until the legal battles have been sorted out, they have no intention of dealing with these sanitation or other issues.

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[31] The basis for this assessment comes from personal experience that includes 16 years in forest management as a forester, technician, and student.

[32] At the time of this research, some Yavesía authorities were working on an environmental services map and plan that indicated their ecotourism and watershed zones.

While many Yavesians recognize that old-growth forests have been degraded or destroyed, some non-residents pointed out that the worst occurred during the late 1950s to the mid-1970s when only large diameter, healthy pines were selectively removed. Land clearing for *milpa* (rainfed corn) or cattle was also a more common practice during that time. Yet most of the forests are still relatively intact, even after many years of commercial logging. Pueblos Mancomunados have an annual operating plan approved by SEMARNAT, and employs a trained group of community forest workers and technicians through its logging enterprise. One interviewee who previously worked in the area as a forester considered their CFE to be excellent. A detailed inspection in 1997 by assessors from Mexico City found their "social and natural capital" to be managed in an "intelligent and well-balanced" manner (pers. comm. Sergio Madrid, August 20, 2002).

Still, not all interviewees agreed. Some knowledgeable sources in the federal and state environmental agencies felt that Pueblos Mancomunados' CFE has failed to adequately account for biodiversity and conservation. For example, one federal official stated that "if Pueblos Mancomunados is doing such a good job [of forest management], then why are they so "wood-focused"? They're not interested in protecting biodiversity." Likewise, in words that complemented Ixtepeji's CFE, one Yavesian added that:

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[33] For instance, forest fires have occurred nearby over the past 30 years due to human activities. The most recent incident was in 1998 when a local resident making limestone blocks inadvertently let a fire escape, burning several hectares of native oak trees.

> "[For Pueblos Mancomunados] to convince us that they are doing a good job, they should work more like Ixtepeji who have excelled [in forest management]. … Ixtepeji looks to the future. Ixtepeji took leadership and organized themselves and said 'we are going to work like the Canadians' … [where] they take care of their trees. Ixtepeji has … a truly integrated management." (Yavesía resident)

Yavesía is also trying to take care of its forests and its village in its own way through innovative environmental knowledge and tourism programs. In 1990, they initiated a community education program focused on health and the environment. Several residents credited a former nurse named "Olivia" for having motivated them to improve family health and town aesthetics. Indeed, it is one of the cleanest and greenest towns I have ever visited in Latin America. As for tourism, rather than building guest cabins as nearby communities have done, including some of their neighbours in Pueblos Mancomunados, Ixtlán, and Ixtepeji, Yavesía has been placing visitors with local families who receive room and board revenues on a direct basis. Local environmental and cultural knowledge is also shared with tourists. Still, some interviewees expressed concerns that Yavesía lacks suitable restaurants and other services to satisfy tourist expectations.

Ecological Awareness

One explanation for the widespread civic protests against logging by concessions in the 1970s and 1980s, and continued efforts to educate local residents about the importance of sustainable forestry, may be the emergence of a collective ecological consciousness in some forest-based communities in Oaxaca. Some local authorities, government officials, and NGO representatives felt that certain *ejidos* and indigenous communities have come to realize the importance of their local natural heritage:

> "If I'm a capitalist and they give me permission to cut down 10 trees, I will do it. The communities have another logic - if they don't need to fell 10 trees, they don't. *It's an environmental ethic*, … a cultural dialogue between an entrepreneurial model and a communitarian model. ... Indigenous people have a more sacred vision, whereas the materialist world loses sight and destroys everything" (Oaxaca academic; emphasis added)

Yavesians employ ecological arguments to prove they are taking good care of their forests compared to the rest of Pueblos Mancomunados: "We have conserved our natural resources. … We relate very much to nature and we have taken care of it" (PANOS 2002:21), or "For us, cutting down trees is a crime" (Yavesía resident). Yavesians accuse their neighbours of causing massive soil erosion, drying up or polluting water sources, and otherwise mistreating the forest to increase profits. In conversation, residents referred to Pueblos Mancomunados as synonymous with Amatlán and Lachatao (and their annexes), but not as Yavesía, as if they were already legally independent. When pressed, Yavesians do recognize that they officially belong to Pueblos Mancomunados, but hope to achieve autonomy for one-third of their shared landbase (9,140 hectares). Yavesians claim this is necessary to protect the forests from further "abuse" and "destruction." However, some interviewees outside of Yavesía felt that the land should not be divided at all, stating that the communities will just have to work things out. Some suggested instead that Pueblos Mancomunados be divided up on a population basis, as calculated by currently residing *comuneros* for each of the eight communities. Many pointed out, however, that Yavesía stands to lose given their relatively low population.

Yavesía's ecological awareness also rests in their collective memory of various legal, political, and even physical battles over environmental rights. Documents, dates, places, and names are freely proffered when asked. For example, many refer to the 2002 Federal Supreme Court of Justice ruling to proportionally divide up the land in accordance with the original number of *comuneros* (from the 1961 accord). Yavesians often employ words such as "justice," "exploitation," and "indigenous rights" to describe their struggle for land tenure and forest preservation. For example, one Yavesía authority mentioned the term *justicia* (justice) 14 times during our interview, whereas an Ixtepejano of an analogous position, responding to questions in an interview of similar duration about what the concept meant to him, used it only once.

Evidence of ecological awareness can also be found in Ixtepeji, however. Unlike Yavesía, the community is not currently undergoing any major internal or external conflicts. As discussed, they are actively engaged in tree harvesting and commercializing non-timber forest products. Yet, many interviewees and informal conversations with residents indicated that Ixtepejanos hold the environment in high esteem, as these selected quotes suggest:

> "The work that we have done in forest protection and for the environment has, little by little, raised the [people's] consciousness." (Ixtepeji resident)
>
> "Ixtepeji is a very peaceful place where the environment gives us all that we need - we depend so much on nature. We are thankful that we still have this unspoiled [forest] land." (Ixtepeji resident)
>
> " … [I]t appears that perhaps some Ixtepejanos now have a somewhat different temporal orientation … than the strong present orientation [i.e., live for today] that I previously described. Such a temporal vision would seem to be necessary for successful resource management." (U.S. academic)

These quotes are not atypical. They concur with personal observations during several visits to the forests. Local authorities and residents consider the forests to be an integral part of their social, cultural, and economic wellbeing. Litter on forest roads and trails is collected on a daily basis and offenders are punished, if caught. Ixtepeji'main 885-hectare protected area is deemed "untouchable" (4,225 hectares currently under some form of protection); birdwatchers from the United States often visit this portion of Ixtepeji's forests, although one commented that he had seen fewer species in recent years. Authorities regard less intensive forest activities such as guiding tourists and collecting mushrooms on the same scale of importance as silviculture and lumber production, a fact borne out in community assemblies.

DISCUSSION: ECOLOGICAL DEMOCRACY COMPARED

Based on the above findings, we now return to the two discussion questions: 1) Has there been local political mobilization in response to changes in forest management regimes?; and 2) what variations in democratic and environmental parameters through indigenous forest management illustrate ecological democracy? The type of forest management and political systems, democratic and environmental shortcomings, and other key aspects pertaining to these two communities are summarized in Table 4-3.

TABLE 4-3. ECOLOGICAL DEMOCRACY COMPARED IN IXTEPEJI AND YAVESÍA

Forest Management	Ixtepeji	Yavesía
Type of forest management system	Integrated sustained yield management with intensive reforestation; timber and non-timber products; usufruct rights to forest; FSC-certified	No commercial logging in majority of Yavesía portion (about 7,000 has. still intact); usufruct rights to forest
Timber forest products	Lumber, roundwood, wood furniture, charcoal, firewood	Wood furniture, small-scale lumber, charcoal, firewood
Non-timber forest products	Ecotourism, mushroom harvesting and cultivation, ornamental plants, pine resin, bottled spring water	Ecotourism, bottled spring water, fruits and nuts
Other sources of income	Agricultural and animal products, fish (trout)	Agricultural and animal products, fish (trout)
Sharing of wood sale revenues	Revenues equally shared among comuneros; the rest goes for social services and equipment upgrading	Some; Pueblos Mancomunados shared logging proceeds with Yavesía until they refused to accept it in 2002
System of governance	Usage and customs (mixed traditional/contemporary)	Usage and customs (mixed traditional/contemporary)
Democratic assets	Elected and rotating positions; periodic community assemblies; collective decision-making	Elected and rotating positions; periodic community assemblies; collective decision-making; familiar with political and judicial mechanisms
Democratic shortcomings	Few women involved in forest management; punishment may be severe; discord frowned upon	Few women involved in forest management; punishment may be severe; discord frowned upon
Forest health	Degraded during concession years; erosion problems on temporary logging roads; minor pine beetle damage	Degraded during concession years in Mancomunados area, but Yavesía's portion mostly intact; minor pine beetle damage
Ecological awards	National Forestry Merit (2002), World Wildlife Fund 'Gift to the Earth' (2002), FSC-certified (2001)	World Wildlife Fund 'Gift to the Earth' (2002)

ENLIGHTENED POLITICAL MOBILIZATION?

Oaxaca's grassroots mobilization for local control of natural resources, first expressed in the Sierra Norte in the late 1960s, was ultimately influential throughout Mexico. As referred to earlier, indigenous peoples have occasionally halted or modified certain corporate operations that were perceived to be socially irresponsible or environmentally damaging. Perceptions of environmental damage have caused Mexican *campesinos* to coalesce and work with sympathetic groups or agencies (Hindley 1999). They have generally done so either by legal-political means or by active resistance (Taylor 1995). Either case, however, requires substantial collaboration within and between groups or communities and their potential partners. These include government, non-governmental agencies, academia, industry, and other communities.

It was also suggested that indigenous communities often share cooperative and reciprocal bonds (Cohen 1999). Still, Oaxaca has had its fair share of conflicts (Dennis 1987; Klooster 1997), putting any social bond to the test. Particular to this research, local conflicts over common pool resources, "may result from situations where resource users find themselves without the social bonds that connect them to each other and to their communities and where responsibilities and tools for resource management are absent" (McCay and Jentoft 1998:25). However, this does not seem applicable to Yavesía's situation. Although they have experienced serious internal and external distrust, it appears that conflict has united them more than ever with their consensual preservationist attitude. As mentioned, Ixtepeji too has experienced trouble with previous forest leadership and with one of their neighbours, yet remains relatively cohesive.

So how did their respective mobilization efforts for forest control come to play out? At least two types of grassroots social movements can be distinguished: 1) Those that aim at forming alliances and influencing national policies, and 2) those that restrict their operations to a single community or interest group, rejecting all vertical structures as being part of the existing system of domination (Zermeño 1987). It appears that while Ixtepeji, Yavesía, and other Sierra Norte communities may have initially shared the first kind of social movement, they diverged considerably once their rights for local forest control were officially recognized in the 1980s. Yavesía opted for the second, more confrontational approach, whereas Ixtepeji took the conciliatory route, building important alliances with national agencies such as SEMARNAT and CONAFOR, and other institutions such as the WWF and FSC. Although Yavesía also formed alliances with the WWF and other environmental organizations, these ties served more to support their arguments for social and ecological justice. Both approaches allowed each community to galvanize and exercise their political rights, but Ixtepeji was able to transform the previous perceived misuse of their forests into widespread benefits by collaborating with supportive forestry institutions. Yavesía, in contrast, remains immersed in a legal and political quagmire.

This suggests the presence of limits or checks to ecological democracy. In many cases, efforts to stray from the Western paradigm of economic development will be resisted, despite local democracies and alternative notions of progress. While local identity and empowerment is inevitably linked to, steered, and shaped by global economic and social processes (Hernández Castillo and Nigh 1998; Nederveen Pieterse 2000), neoliberal capitalism has become the predominant model worldwide that cuts through all markets and other institutional arrangements, even local ones. Left populism and movements for environmental justice may be broadening the call for ecological democracy (Faber 1998), but capitalism retains its powerful propensity for generating inequalities in environmental health and living conditions among citizens, thus undermining political equality.

EQUITABLE PARTICIPATORY DEMOCRACY?

As the findings indicated, governance in Ixtepeji and Yavesía share many democratic features, including participatory leadership, fair elections, and deliberative practices. Several socio-cultural characteristics were found that serve to enhance participatory forms of democracy. Both communities share strong cooperative relationships, collective land ownership and management, support for local forms of communal organization, and well-engrained cultural patterns that reinforce communal decision-making mechanisms. As such, Ixtepeji and Yavesía exemplify Elinor Ostrom's (1998) "institutional choice perspective," which claims that individual rationality can be harnessed for public and environmental benefits. Moreover, accepting that democracy is a political system in which the opportunity to participate in decisions is widely shared among all adult citizens (Dahl 1991:6), then both communities demonstrate some features of mature democracies. The fact that most decisions are made on a consensual basis, or at minimum, by majority rule of male voting members, indicates that collective needs are prioritized over individual ones.

On the other hand, evidence from meetings and interviewee comments suggests that community leadership structures and processes are of a parochial, even chauvinist nature.

Since women are not considered to be able to generate "useful" knowledge (i.e., to men), women are often found to be inarticulate in participatory discussions, thus excluding their perspectives and views from the construction of "local knowledge" (Mosse 1994:514). Both communities incorporate mostly male citizens (16-60 years of age) into environmental decision-making, and purposively relegate women to domestic roles, jeopardizing acceptable notions of equity. Women are kept out of key decision-making roles, with a few exceptions such as tree nursery management in Ixtepeji. Even for Yavesía, those who present claims for justice and work on forest conservation issues are men. As many interviewees suggested, especially those outside the two communities studied, substantial changes in the rights and roles of women and minorities (e.g., non-native residents) would have to occur before their respective CFEs could be considered as fully democratic. As such, the cultural or "traditional" divisions of labour under which women are obliged to participate challenges the democratic the democratic foundations of both communities.

Two other concerns include the conditions placed upon eligible males to serve in positions of authority, and the quality of discussion and debate. In the former, serving the community or attending meetings are not options for *comuneros*, but instead are enforced through fines or other sanctions if breached. Poor leaders may be removed by a majority vote, but voting is suspect since a publicly visible show of hands is required, which may influence ones' stance. As for the latter, the community gatherings do indeed offer opportunities for deliberative debate in the general assemblies, councils of elders, and by *comuneros* that work in an administrative capacity for the CFE (in the case of Ixtepeji). However, this is not to say that the decisions made are truly deliberative or equitable. For example, technical information is often lacking for the average *comunero* to be able to make an informed opinion in forest decisions (Alatorre Frenk 2000:158). Also, it should be recognized that few Yavesians take part in these management decisions given their opposition to logging. So, at best, a participatory form of democracy blemished by serious limitations presides in both cases.

These serious democratic weaknesses aside, forest decision-making in the two communities tends toward shared input for shared benefits. Cooperative practices of traditional communities can create and/or reproduce identity and enhance community solidarity, while at the same time providing footings for negotiating and coping with ongoing social, economic, and political change (Cohen 1999:4). They also promote local autonomy, often filling voids where government or the private sector may have encroached on local affairs. Failings aside, environmentally-oriented democracy in the two communities seems headed in the right direction.

GOOD ENVIRONMENTAL MANAGEMENT?

For the two communities studied, the "ecological" in ecological democracy cannot be easily extracted from its interwoven context of socio-cultural wellbeing. Unlike the efficiency considerations that orient most corporate forest operations (Luckert 1999), for indigenous-based CFEs, profitability may take a backseat to socio-cultural demands and ecological health, even against global market pressures. This is certainly the case for Ixtepeji and Yavesía. Even though they have taken different routes, both communities recognize the importance of their forests in the maintenance of clean water supplies, the prevention of soil erosion, and as "givers of life." Communities such as Ixtepeji, with its careful forestry practices, and Yavesía, with its strong argument for forest preservation, tend to collectively think of multiple benefits for future generations. Although some criticisms were noted, in general, both communities demonstrate ecologically responsible intentions and actions.

Two conflicting themes that relate to ecological awareness emerged from the interviews. On one hand, their oft-expressed ecological sentiments might be due to the strong historical and cultural attachment to the land that indigenous people seem to share in Mexico and elsewhere, or what has been termed "sense of place" (Mesch and Manor 1998; Wasserman, Womersley, and Gottlieb 1998). Several felt that their indigenous-based sense of place afforded them a broader perspective over purely profit-minded individuals and companies. Conversely, it may be misleading to characterize communities in conflict over land rights as having developed an ecological consciousness. Actions taken by such communities could mask local economic interests and a perceived inherent right to local autonomy; it was pointed out in the findings, and by their own admission, that the latter situation applies to Yavesía. Yet, in Yavesía's view, local autonomy is necessary to achieve their ultimate goal of forest preservation.

It is certainly true that Ixtepejanos do not speak of their forests in the same way as Yavesians - namely, as a focal point for claims of justice and land tenure - nor does the importance of clean water come up as often in conversation with Ixtepejanos, who are not averse to logging, unlike many Yavesians. It appears, however, that Ixtepeji has been able to adopt sustainable forestry techniques without losing sight of what is ultimately critical to their cultural survival. In this sense, their ecological awareness approaches that of Yavesía. Given that Ixtepeji manages an internationally recognized certified forest, they have already embraced sustainable forestry. Ixtepejanos ultimately benefit from their own forest management - both tangibly through shared profits and employment, and intangibly through healthy ecosystems. Sierra Norte forests have been well managed since the early 1980s according to many interviewees and various published accounts (see, e.g., Fonseca, Barrera, and Barrera Terán 2000; García Peréz 2000; Mathews 2003; R. González 2001; Robinson 2000a; Sumano 2002; Sánchez 2002). Ecological conditions continue to be monitored by various agencies such as SEMARNAT, WWF, and SmartWood, as well as the community itself, which has contracted with biologists and other specialists for flora and fauna studies.

As for Yavesía, most residents assert that environmental amenities have been concentrated into the hands of particular social groups (i.e., their neighbours), whose actions have imposed ecological degradation on Yavesía's portion of the shared forest landbase. Unlike the Ixtepejanos, they may not share forest revenues, but on the other hand, Yavesía's residents reap many intangible environmental benefits from their forest conservation efforts - clean air, clean water, and stable soils, among others. Could Yavesía make a sustainable living from careful harvesting of its forests? Some leaders suggested that they would not be averse to logging some of their forests - or at least the diseased or insect ridden trees.[34] Other non-industrial possibilities frequently mentioned include the provision of environmental services such as watershed protection, carbon sequestration, and ecotourism. However, the first two options are largely theoretical at this point. Moreover, ecotourism is a very competitive economic sector, and even a high degree of community participation in its planning and management does not guarantee that excessive revenue leakages will not occur (Mitchell and Reid 2001). Without viable projects that offer attractive economic options for locals, the migratory flow of residents will most likely continue. If Yavesía wishes to survive as a community, it may eventually be forced to come up with a diversified economic plan that includes harvesting timber as a part of sustainable forest management.

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[34] During my return visit in 2004, I was told that has been occurring to some extent with federal government support (SEMARNAT).

In sum, ecological democracy appears to have taken root in both communities, even though it has taken quite different trajectories. Yet given the constraints described above that include gender inequalities in political mechanisms and unresolved internal conflict, it would be unreasonable to state with certainty that ecological democracy has been secured. Much remains to be done to ensure its continuance.

One limitation with this study is that only two communities were selected, which brings up two concerns. First, both communities have almost the same democratic characteristics as depicted in Table 4-3, yet have developed very different ideas about what constitutes good, ecologically conscious forest management. Yavesía ended up taking a different direction than Ixtepeji (pursuit of environmental justice over harvesting timber as a part of sustainable forest management), even though they have similar democratic characteristics. This divergence was due to different cultural-historical internal and external relationships as explained above - distrust, lack of confidence in leadership, perception of forest destruction, and other factors all contributed to their chosen route.

Second, it is equally possible that another community with the same democratic characteristics as Ixtepeji and Yavesía could develop a far more exploitative relationship to its environment. Indeed, this has been happening throughout Mexico in presumably democratic communities that are clearing their forests with little thought to forest conservation. Yet another community in a different setting, but under similar economic or land tenure pressures, may have reacted very differently - from passive acceptance or encouragement of logging to outright violence. This indicates that although we may be able to postulate the potential synergies between participatory democracy and ecological wellbeing, we cannot entertain any notion of a deterministic causal relationship between the two. In other words, that participatory democracy necessarily leads to better ecological management), as some (utopian) theoretical accounts of ecological democracy would have us believe. Care must be taken, therefore, that ecological democracy is not treated as a catchall or, even worse, a mantra for community-based development. This research has demonstrated some of the pitfalls that may be encountered in community forest governance.

CONCLUSION

The purpose of this study was to characterize and evaluate the relatively new concept of ecological democracy by two principal means. First, evidence was provided of local political mobilization in response to alterations in forest management regimes. Second, certain variations in democratic and environmental themes through indigenous forest management were described and explained. Each section built upon the definition of ecological democracy set out in the beginning of this paper; namely, whether the forest administrative practices and procedures genuinely strive to incorporate all interested citizens into environmental decision-making, and whether they lack structural features that systematically concentrate environmental amenities into the hands of particular social groups, while imposing ecological degradation on others.

First, I found that local political mobilization did occur in response to the industrialization of forest management in Mexico, which led to widespread community forests control by 1986. Following these radical socio-political and judicial changes, the two Oaxacan indigenous, forest-based communities studied for this research began to prioritize both economic and non-economic forest use, but in varying ways - one opted for sustainable forest management and the other chose forest preservation. Yet both were able to successfully mobilize themselves through historically engrained cooperative practices and by making strategic alliances.

As for the second question, and crucial limitations notwithstanding - including prohibiting women from participating, internal conflict, and certain parochial decision-making practices such as enforced participation - I found that local forest management in both communities was moderately inclusive among eligible *male* citizens. One of its greatest shortcomings, however, has to be the barring of females from meaningful participation in forest governance. This democratic failing was noted by at least one community authority who hoped for an end to gender exclusion. On the other hand, by the evidence provided, including claims made by the majority of those interviewed, it was also environmentally beneficial for the most part; indeed, perhaps even more so than was previously the case during the profit-oriented corporate concession years. Moreover, an advanced ecological awareness for both communities is atypical when compared with many other forest-based communities throughout Mexico, where short-term logging revenues may outweigh intangible environmental benefits.

What does this research say, then, about the theory of ecological democracy given that Ixtepeji and Yavesía have chosen such different forest management alternatives? Could indigenous forest management be perceived as beneficial for democracy and the environment alike? In response, two final points are worth noting.

First, given the evidence presented here, we can state that achieving ecological democracy in an indigenous community forest model is entirely viable. If participatory democracy really does facilitate environmental health, then it stands to reason that forest ecosystems should benefit from increased public involvement. Local contentment with democratic forestry processes and practices should be incentive enough to carry out fair and environmentally friendly logging activities. This would avoid costly local forms of resistance, not to mention the deferring of industrial pollution or forest degradation to future generations.

Second, this study provides a greater refinement of this sometimes-generalized notion of ecological democracy. In effect, as noted by one academic interviewee from Oaxaca, several models or degrees of ecological democracy may exist. These distinctive models may take on indigenous or localized notions of how one's community and surrounding resources should be cared for or managed. It is not just a question of whether one route taken is any better than another. How and why these diverse ecological democracies evolve, clash, interact, and complement each other, and what significance this may have for resource policy and management, can only be better understood through continued research.

CHAPTER 5: CONCLUSION

At least one common thread connects the preceding chapters in this research: ecological democracy. This relatively new concept was described in Chapter 2 as an alternative democratic model that accomplishes two tasks: first, it genuinely strives to incorporate interested citizens into environmental decision-making, and second, it lacks structural features that systematically concentrate environmental amenities into the hands of particular social groups, while imposing environmental degradation on others.

In this concluding chapter, I briefly summarize some key aspects of ecological democracy by making reference to the preceding chapters. More specifically, the community forests of the Sierra Notre in Oaxaca, Mexico and their indigenous inhabitants have provided the situational context for much of the theoretical background and empirical findings. I follow this with a section on the distinctive social-cultural aspects of indigenous forest-based communities in Mexico that have encouraged successful attainment of ecological democracy. Then, several key findings are summarized for their potential relevance for policy-makers, planners, managers, and citizens that are concerned about, or already actively engaged in, environmental decision-making. I conclude that this research has important implications for other nations as well, including industrialized ones such as Canada.

ECOLOGICAL DEMOCRACY: THEORY AND APPLICATION

Anyone interested in the theory and application of ecological democracy is immediately faced with some daunting challenges, including conceptual ambiguity, the associated lack of empirically grounded research, and expressed misgivings among social scientists about its utility. Referring particularly to the discussion in Chapter 2, these challenges can be broadly grouped into theoretical-epistemological and empirical-practical.

First, theoretical and epistemological shortcomings of ecological democracy indicate that researchers are faced with considerable uncertainty about either its existence or even its potential. As an example of the latter, a "win-win" situation (Optimist Scenario) in which environmental decision-making achieves and maintains optimal satisfaction for all stakeholders, democratically benefiting human and non-human entities alike, seems unlikely against the current backdrop of profit-driven development. As discussed in Chapter 2, often unsustainable economic growth continues to be prioritized (Status Quo Scenario) in many regions worldwide (see, e.g., Grossman 2000; Korten 1999; Tokar 1997).

Second, significant empirical challenges remain to be answered if ecological democracy is to be measurable for practical ends. As discussed in Chapter 2, any given example of ecological democracy is most likely characterized by several overlapping and variable scenarios that implicate a host of social actors, settings, and institutions. There are also critical nonhuman factors such as climate change, ozone depletion, water scarcities, pollution, and declining biodiversity, although these elements may have little influence on decision-making unless some group speaks out on their behalf.

Such complexities not only lend a certain ambiguity to the assessment of ecological democracy; they most likely hinder its hoped-for attainment and jeopardize its continuance, assuming it could eventually be achieved in an idealized form (Optimist Scenario). They also make it difficult to compare and contrast different scenarios.

Still, these important caveats should not restrict the continued study and application of ecological democracy. It is worth recalling that the primary research goal as expressed in the introductory chapter has been to examine *the nature of those forms and processes through which ecological democracy emerges*. This has been the principal task of the preceding chapters, indicating that some degree of ecological democracy is possible (although admittedly difficult to achieve), identifiable, and empirically measurable. At the same time, it was recognized that specific shapes, procedural paths, and eventual outcomes of ecological democracy vary for any given situation. To assess these variations, key components and processes indicative of ecological democracy were compared through appropriate case examples.

For instance, the scenario-building exercise that was discussed in Chapter 2 (Optimist, Ecocrat, Democrat, Status Quo) allowed for the testing of key hindering and facilitating factors of ecological democracy by means of two cases: pollution along the U.S.-Mexican border and community forestry in southern Mexico. Five hindering factors considered in this chapter were international capital, closed democratic systems, the premise of equality of conditions, scientific prioritization, and ineffective or nonexistent mediating structures that serve as a conduit for democracy; five facilitating factors discussed were environmental altruism, discursive democracy, perceptions of environmental crises, local-global networks, and cultures supportive of participatory democracy.

While there are undoubtedly several other factors that aid, restrict, or altogether obstruct any possibilities for ecological democracy, the ones selected in Chapter 2 were felt to be salient for this case comparison. It was concluded that, under the right social and political set of circumstances, certain groups may be more dedicated to environmental stewardship and community sustainability, especially compared to those faced with strong pressures by industry and government to pursue undemocratic and environmentally detrimental options for economic development. Although many countries such as Mexico are experiencing environmental degradation, increased poverty, and social injustice, this analysis shows that current trends toward environmentalism and participatory resource management even in these regions bode well for the theory and application of ecological democracy. By analyzing relevant factors that either have prevented or encouraged public involvement in environmental decision-making, this exercise will serve to improve environmental policy formulation and activities.

In Chapter 3, an examination of common forest property regimes of mountain communities in the Sierra Norte allowed for further elaboration of ecological democracy. Such communities are characterized by unique socio-cultural and historical contexts. While common property institutional rules and norms have been discussed at length in the relevant literature (Berkes 1989; McCay and Jentoft 1998; Ostrom 2001; Pandit and Thapa 2004; Sarukhán and Larson 2001; Tucker 1999), the concept of ecological democracy has not been applied to communal forest decision-making. This is odd when we consider that democracy theory and common property theory share common ground for their potential relevance to resource-based decision-making. This includes whether such decisions are made on a collective, representative, or autocratic basis, although it is likely that the former provides the basis for most common property governance arrangements. In this chapter, democracy, forest trade, and socio-environmental wellbeing served as general themes for analysis. I asked whether collective and presumably democratic decision-making in common property forest systems is feasible in the face of mounting pressures for land privatization and trade liberalization. Rather than rely entirely on the "institutional choice" perspective as discussed by Elinor Ostrom (1990, 1998, 2001), among other scholars (e.g., Klooster 2000; Tucker 1999), who claim that individual rationality can be harnessed for public and environmental benefits, a "thick" explanation was employed that linked common-pool resource regimes more explicitly to a historical context of intertwined social and political relations. I found that more than collectively agreed upon institutional rules and norms bind certain common property forest arrangements, such as those of Oaxaca's Sierra Norte communities. Instead, these communities are deeply embedded in a rich network of political, socio-cultural, historical, economic, tenurial, ecological, and other bonds. Formalized decision-making processes or even communal rules under such conditions are relegated to these "thicker" relationships. In sum, I illustrated that, through government and nongovernmental support as well as favourable trade regimes and new "rules of the game," democratic forest management has benefited from these selected Oaxacan common property forest systems.

Finally, recognizing that adequate scholarly work has been lacking on forestry matters relative to ecological democracy, Chapter 4 shows that community-based forest management could serve as an ideal case of ecologically beneficial and democratic decision-making. A cross-comparison of two indigenous communities in Oaxaca - Santa Catarina Ixtepeji and Santa María Yavesía - allowed for scholarly reflection through a detailed empirical analysis. Four key themes primarily emerged from 51 semi-structured interviews: local governance, equitable decision-making, forest management, and environmental awareness. One key finding was that local forest management in both communities was found to lean toward openness and inclusiveness. Still, crucial limitations such as gender exclusion and internal conflict tarnish some of the advances made in community forest management of Oaxaca. Moreover, an advanced ecological awareness was evident for both communities studied, even though their respective energies ranged from anti-logging activities (Yavesía) to sustainable forest management (Ixtepeji). This awareness was held to be uncharacteristic when compared with many other forest-based communities throughout Mexico that are experiencing rapidly disappearing forests (Simon 1997), which is also often compounded by poor or corrupt leadership (Cairns, Dirzo, and Zadroga 1995; Jaffee 1997; Klooster 1997).

REASONS FOR SUCCESS IN ECOLOGICAL DEMOCRACY

Key findings from Chapters 2, 3, and 4 have indicated that it is not just organizational structures or land tenure arrangements that affect the success of forest-based communities in Mexico, and ultimately improve the likelihood of ecological democracy, although these certainly help. If this were so, then we would expect to see similar results in other indigenous communities of Oaxaca, or elsewhere in Mexico. This is simply not the case. As we saw in Chapter 3, even in Oaxaca some forest-based communities are more successful than others.

Besides their respective forest governance structures and processes, intricate individual, community, and external relationships of cooperation and solidarity also bind indigenous communities, perhaps best exemplified in the examples provided in this research. Indeed, communal relationships are intrinsically unique and salient in tightly knit, small-scale communities such as those of the Sierra Norte. While it is not possible to transplant an indigenous community structure or social makeup onto any other community and expect to achieve the same satisfactory results, many lessons have been learned from this research that make their analysis and consideration all the more pertinent.

As explained in the hindering factors discussed in Chapter 2, citizen participation in environmental planning and management may be restricted by government, industry, or even by current mediating structures that serve to perpetuate existing inequalities. These conditions are particularly relevant to those societal circles characterized by formalized, technocratic decision-making. Moreover, less noticeable forms of exclusion may arise "even when individuals and groups are nominally included" (Young 2000:53). For example, impediments for public participation may arise due to cultural factors (for example, language difficulties or traditional protocol may prevent certain individuals from speaking out), procedural hurdles (such as when allotted time for discussion and debate is limited), or strategic motives (inadequate communication and information sharing may be used to group advantage) (Parkins and Mitchell forthcoming).

In contrast, this research found that certain cultures supportive of participatory forms of political arrangements might be more amenable to ecological democracy. Some cultures, such as indigenous groups of Mexico, have a shared tradition of strong cooperative relationships and organizational practices, collective land ownership and management, and well-engrained cultural patterns that reinforce long-held local decision-making mechanisms (Cohen 1999). Together with the deference for generational benefits exhibited by many indigenous cultures, these socio-cultural strengths or "social thickness" may actually favour ecological democracy under the right set of circumstances, supporting this facilitating factor discussed in Chapter 2.

On the other hand, as we saw in Chapter 4, certain voices may be excluded on the basis of gender, class, residency status, and other demographics. Patriarchical, prejudiced, or exclusionary contexts are less amenable to participatory democracy, even though on the surface it would appear that many indigenous communities such as the two study sites seem to encourage open forums for discussion and debate. So, while ecological democracy is facilitated under certain socio-cultural conditions as mentioned above, it can be simultaneously hindered by the same conditions, whether concurrent or separate.

While still representing a minority of cases, Yavesía and Ixtepeji seem more typical of those community forestry operations in Mexico that are highly regarded for the cultural, socioeconomic, and ecological benefits that they bring to rural residents (see, e.g., Bray et al. 2003; Merino-Pérez 1997). In summary, this chapter illustrated that, key shortcomings aside, certain indigenous communities reliant on nearby forests are, at the very least, striving towards ecological democracy.

This research has found that the community's capacity to enact positive ecological change is essential. Yet those best adapted to change are not always those most bounded by tight working, intercommunity and intracommunity relationships, especially if "traditional" or parochial forms of leadership predominate. Still, perhaps contrary to this statement, certain indigenous communities of Oaxaca have been able to adapt and conduct their own forest management, arguably with a much greater focus on social benefits than was previously the case. Possible explanations are that many communities have been amenable to knowledgeable external advice and support, have built on past experience, are careful to avoid past mistakes, and boast strong social ties within and between families and neighbouring communities. These facilitating factors encourage the creation, implementation, and maintenance of environmental managerial structures and civic governance. In their absence, and assuming community-based environmental management is desired (which may not be the case at all), then community leaders and interested citizens will have to discuss ways to build social capacity with each other, with external policy makers and managers, with industry, and with other potential collaborators. Robert Putnam (1993) and others have defined social capacity as features of social organization such as networks, norms, and social trust that facilitate co-ordination and collaboration for mutual benefit. Although this research did not identify ways in which social capacity could be enhanced, it did recognize that cooperation and cohesion are important elements in building trust that could lead to improved environmental decision-making.

This study has also shown that environmental policies and structures should not be imposed from above, but must ultimately be built on partnerships with affected communities. Contrary to current modes of thought (e.g., Luckert 1999), communities are capable of developing their own degree, style, and pace of forest management with potentially beneficial social, economic, and environmental benefits. Most certainly, these features will vary by site-specific historical, cultural, and experiential characteristics. In addition, geographic, political, economic, and technological constraints or opportunities will affect forest management success.

RECOMMENDATIONS

Contrary to these positive factors described above and in the preceding chapters, ecological democracy is not a "done deal." The hard reality is that key structural features are sorely lacking for ecological democracy to be able to succeed, let alone survive, under most current circumstances. Transparent and inclusive governance for meaningful public engagement concerning environmental matters is a hard formula to meet, even in so-called democratic nations. Many powerful hindering factors, working from multiple directions, agencies, and scales, have reduced or outright blocked opportunities for ecological democracy. The global economy has been structured in such a way as to make ecological democracy unlikely anytime soon.

On the other hand, as demonstrated by this study, several positive examples do exist of ecological democracy, leading to the conclusion that ecological democracy is entirely possible. Many such examples have been provided in this thesis, but particularly in the detailed analysis of the communities of Ixtepeji and Yavesía. Two positive aspects worth mentioning illustrate that ecological democracy is a realistic endeavour.

First, the increasing number and severity of environmental crises around the world have led to significant efforts by local, marginalized, or ordinary people and groups to mobilize themselves and rally for change. Many individuals, communities, groups, agencies, and other components of civil society have been successfully organizing themselves in recent years on environmental matters. These social movements have often taken place in collaboration with other communities and civic actors, although, as Chapter 2 indicated, these supportive "mediating structures" can sometimes backfire if their support is ineffective, inappropriate, or unaccountable. Still, serious cases of pollution and ecological degradation or destruction can be found almost anywhere in the world today, and momentum has been building that civil society should not leave all environmental decision-making in the hands of those "who know best." Many social actors left out of environmental decision-making for "traditional" or "historical" reasons have been successfully asserting their own perspectives and demanding their democratic rights, whatever those may be. Although these actors often widely differ by cultural, demographic, and other features, they have been finding common ground to oppose environmental "bads" and take an active role in environmental management. These civil demands take different forms and are played out in diverse fora, from legal mechanisms in various courtrooms to public protest and civil disobedience, but they often work for similar ends. Above all, their combined efforts tend to focus on meaningful public involvement in environmental decision-making. For instance, this thesis has described and explained how a few relatively isolated and marginalized communities were able to mobilize themselves in Mexico, and at least partially achieve their collective aims. Local actions of ordinary residents such as those in Ixtepeji and Yavesía have been making a positive difference to democracy and the environment.

Second, substantive changes in environmental administrative structures have occurred, to the amazement of many, in a country long dominated by authoritarian and clientelist politics. In Mexico, forest tenurial and environmental management rules and regulations have radically changed since the 1970s, and many of these changes have been in favour of local forest management by Mexican *ejidos* and indigenous communities, even amidst widespread corporate lobbying efforts to prevent this from occurring. Significant legal, political, and administrative improvements have been made that can only have positive implications for ecological democracy *vis a vis* forest management. New administrative openings have been gathering momentum and local communities are gaining more experience in caring for and managing their forests - for themselves.

These positive cases that point toward ecological democracy should lead us to be optimistic for positive change. However, opportunities for change need to be identified, created, acted upon, monitored, and adapted, where necessary, by all relevant actors and institutions. This includes both public and private sectors already involved, or that should be involved, in environmental policy and management. While the following list of five recommendations from this research is by no means exhaustive, it does offer several key areas for policy focus.

1. FACTORS CRITICAL TO ECOLOGICAL DEMOCRACY

Several key internal and external factors are crucial to the success of ecological democracy. Internal factors in community forestry, for example, include sound leadership and effective governance mechanisms that encourage public participation in decisions concerning resource use and environmental health. Yet any community forestry operation is not an island of activity. What happens locally is important, but is not the only way to demonstrate effective democratic processes and environmental health. External factors such as collaborating or regulatory agencies and market conditions will affect the circumstances under which any environmental decision-making occurs. The overall political, legal, judicial, and trade processes for any given (local) region and nation will have crucial impacts on the success of community forestry. Both constraints and opportunities for community forestry are dependent upon these external linkages. Thus, enlightened democratic governance and sound environmental planning have to be instigated and reinforced from above and from below. No community can make far-ranging decisions about complex forestry issues without the cooperation of outside entities. Perhaps most crucial among these external aids is a supportive government that takes its mandate from a well-developed constitutional and regulatory environment favourable to local environmental management.

2. FOCUS ON SOCIAL AND ECOLOGICAL BENEFITS

Significantly, this research indicated that economic or material wellbeing might not be the main priority for some resource-dependent communities, even those that are impoverished. In reference to Oaxacan indigenous communities, but perhaps also applicable to other communities, the social and ecological context often prevails over economic values. As several authors of Traditional Ecological Knowledge maintain (see, e.g., Berkes 1999), cultural survival depends on ecological survival; the successful attainment of one cannot be achieved without the other. Many resource-dependent communities have recognized that the forests need to be maintained for present and future generations, and have developed a communal sense of stewardship. Hence, sustainable, healthy communities rather than solely profits and jobs should guide policy and management priorities.

3. USE CULTURALLY APPROPRIATE MODELS FOR EACH CASE

Culturally appropriate and site-specific models should be designed and implemented for environmental governance. In short, no singular planning and management model exists that can be effortlessly designed to work for every community, no matter how satisfactory it may work elsewhere. This flies in the face of traditional logic regarding development in impoverished regions, which has typically been based on trickle down growth models or the transfer of successful models into new areas. These may work in a few cases, but without the requisite community will and capacity, it is unlikely that they will take root. This logic most likely applies elsewhere in the world, including North American aboriginal cultures.

4. USE INTERDISCIPLINARY APPROACHES TO MEASURE ECOLOGICAL DEMOCRACY

While the intention of this research was not to conclusively determine if environmental health was improved or not through community managed forests, many expert interviewees, local residents, and various forest-related reports indicated that local forest health had improved since the days of the corporate concessions. More work is needed to prove or disprove the notion that ecological benefits have accrued from democratic forest management. Hence, an interdisciplinary, longitudinal approach is recommended to study the effects of community forestry or other forms of environmental management. This would include monitoring key indicators of forest health or forest integrity over time. Such research would provide for a more comprehensive and empirically comparable account of ecological democracy for any given situation and period of time.

5. Prioritize Ecological Democracy in Environmental Management

Ecological democracy should be made a priority by all responsible agencies, communities, and groups that are concerned with environmental decision-making. For policy makers and managers interested in making ecological democracy a reality, scepticism should be expected in regard to the potential for two contradictory forces to be easily combined. To be sure, considerable shortcomings are inherent to understanding ecological complexities and how contemporary democracies really work. Yet this is not a situation of placing human interests over environmental ones, or vice-versa. On the contrary, this research has suggested that democracy and ecology can be cooperative, not combative. Ecological and social parameters that incorporate careful and democratic attention to rights and values (both human and nonhuman) should represent a central component for any environmental decision-making framework. As a burgeoning environmental justice movement and literature have demonstrated, ecological crises can encourage environmentally motivated citizenship to flourish among even the most marginalized groups and individuals. Such efforts can lead to the establishment of new arenas for political participation. In the final analysis, a renewed focus on ecological democracy could potentially lead to healthier environments and a more satisfied and engaged citizenry.

FINAL THOUGHTS

My hope is that I have proposed a reasonable conception of the term ecological democracy and its preconditions for future measurement and application. This analysis should not only inform ecological and democratic discourses, it also has relevance for other areas of sociological interest that include (but that are not limited to) feminism, human rights, environmental justice, proprietary rules, and poverty issues. Measurement tools and variables may change, but the basic frame for ecological democracy is recursive and adaptive. This should be the case whether facilitating and hindering factors, scenario building, or even game theory are used, although future research could test, compare, and refine appropriate methodological approaches.

This research has also shown that the key to natural resource use and protection rests with an empowered citizenry. In particular, forest-based communities are well placed to determine what is ultimately best for them and their environment. Ecological and democratic principles must be integrated through concerted civic actions, with fair, open, and inclusive policy aimed at reducing both environmental and social wrongs. Most certainly, a naive idealism championed by Scenario A seems a faint possibility at best. Yet we can move forward if we not only speak of environmental citizenship, but also act collectively to achieve it. While these cases differed in their social, economic, political, environmental, and geographical contexts, the comparative analyses of their key environmental and political characteristics have served to enrich the study of ecological democracy. Both opportunities for, and deficiencies of, ecological democracy were described and discussed. The findings should aid decision-makers to reformulate policy and implement programs for ecological reparations or political adjustments, hopefully strengthening opportunities for ecological democracy.

Careful study of the actions of resource-dependent communities that have emerged as effective political forces in an effort to protect local resources, even in certain cases passing up opportunities for economic rewards, could improve understanding of impacts and responses to rapid changes in natural resource management regimes in resource dependent communities. This research will help formulate problem-solving interventions and models for environmental policies and projects.

APPENDIX 1: TREES DON'T TALK: A METHODOLOGICAL ACCOUNT OF A FOREST SOCIOLOGIST IN MEXICO

INTRODUCTION

Sociological fieldwork presents a unique set of challenges. Among these, significant disparities such as gender, race, religion, or class likely exist between the researcher and the researched. While certain differences may be overcome, others may not. Such distinctions are occasionally used to mutual advantage (Metcalf 2002; also see chapters in Whitehead and Conaway 1986). Other factors such as negotiating entry and building rapport change according to the circumstances often outside of a researcher's control, and hopes for maintaining neutrality are occasionally dashed.[35] A researcher's own "history/biography" may also overlap in relation to particular social locations (Stanley 1993). As social scientists, we can only address such dilemmas by realizing that our research activities say as much about ourselves as those we choose (or who let us choose) to be researched (Steier 1991).

Given these fieldwork challenges, I examine here the complexities of fieldwork through a "confessional tale," focusing on recent research in two mountain communities of southern Mexico. In brief, "a confessional tale is that of a fieldworker and a culture finding each other and, despite some initial spats and misunderstandings, in the end, [hopefully] making a match" (van Maanen 1988:79,94). Max Weber (1949) and C. Wright Mills (1959) were among the first in sociology to write about personal involvement in research. One of the best-known examples of the confessional genre can be found in the Appendix to *Street Corner Society*, William Foote Whyte's (1981:279-

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[35] Maintaining neutrality may not always be desirable. Much depends on the kind of research methodology to be used or the cultural sensitivities of the study. For example, participatory action research necessitates a fair degree of researcher activism, and research in dangerous settings such as with drug traffickers or users may make it necessary to abandon neutrality (e.g., Lee 1995).

358) timeless urban ethnography of street gangs (cf., Behar 1999).[36] Other fieldwork reflections are abundant in the literature (e.g., see Golde 1986; Haley 1999; Kearney 1992; Ladino 2002; Metcalf 2002; Rabinow 1977; van Maanen 1988; Vázquez García 2001; Whitehead and Conaway 1986). The confessional tale is also part of the emerging trend in auto/biographical research (Cotterill and Letherby 1993; Stanley 1993; Steier 1991). Still, mainstream academia has not wholeheartedly embraced this genre (van Maanen 1988). Without such introspection, social science research results may not only seem somewhat dry; they can obfuscate how challenges were faced and addressed in the field.

This paper explores how I, a foreign researcher in Mexico, was received, constructed, interpreted, and even altered by "others." The use of "I" is deliberate, since I agree with Gayle Letherby and others who believe that by "[w]riting as 'I' we take responsibility for what we write" (see also Cotterill and Letherby 1993; Letherby 2003:7; Stanley 1993). More specifically, it highlights field strategies in my shifting role as a forest sociologist. My success or failure rested on my ability to recognize multiple identities and motives assigned to me by respondents (see also Ladino 2002:6.1). Recognizing that "it is the researcher and not the respondent who gains privileges and advantages" (Letherby 2003:120), the onus was on me to deconstruct, alter, or adapt such perceptions. My positionality - as a forester, a sociologist, a development worker, a foreigner, a male, a friend, a stranger, etc. - admittedly privileged me, although sometimes due more to good timing than to a carefully thought out positioning of "self." Yet, at times these epistemic typologies also worked to my disfavour no matter how hard I tried to downplay my cultural predispositions.

In this paper, I first briefly discuss related field research in Mexico for comparisons. This is followed by an analysis of field research challenges and their implications for understanding. I end with a synopsis for other researchers conducting fieldwork in unique cultural contexts.

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[36] *Street Corner Society* was first published in 1943 without the confessional elements it now contains in Appendix A of the 1981 edition.

OTHER FIELD RESEARCH IN OAXACA

Many Oaxacan social scientists have at least partially situated their field experiences within their respective works (Cohen 1999:xi-xiv, 1, 85-87, 107-109, 175-176; Rubin 1997:ix-xii, 3-6). Other researchers have more explicitly reflected on their field encounters in Oaxacan communities. An example of this latter approach is Campbell's (2001) personal account of the dynamic tensions and contradictions of his fieldwork on radical politics in Juchitán, Oaxaca. Campbell calls for a rethinking of rapport or "bonding," and recognizes his multiple roles as a white, foreign, and political activist researcher once married to a local woman. His forthright discussion of alcohol as an unorthodox rapport-builder in the bohemian cantinas and *velas* (fiestas) of Juchitán also shares similarities to Laura Nader (1986) and Michael Kearney's (1992) accounts. Some Oaxacan researchers encountered villager's doubt as to their motives, especially during the early stages of their work. Nader (1986) was accused of being a Protestant missionary and Kearney (2004) was suspected of being a gold prospector. Both went to some pains to correct these mistaken notions. In Nader's case, the village priest consulted an outside source to verify her credentials as a Catholic anthropologist. In contrast, to explain his presence in the town, Kearney placed much of the "blame" at his *muy duro* (very strict) professors at Berkeley for sending him to such a forlorn place (Kearney 2004). This was more believable than the "real" but boring explanation of just wanting to study the locals. Jeffrey Cohen and his wife taught English during their stay in Santa Ana del Valle, which led some villagers to believe that they were part of a government project to train workers in a foreign language (Cohen 1999:107-109, 175-176). Once they had arranged to work as *maestros* (teachers), they gained a new and lasting identity. They were transformed from "odd gringos," sharing little in common with their neighbours, to accepted members of the village, without losing their status as "outsiders and oddities" (Cohen 1999:109).

Outside of Oaxaca, anthropologist François Lartigue (1983) spent several years studying forestry exploitation among the Sierra Tarahumara of Chihuahua. Lartigue's relationship with his respondents was always in flux, a negotiated balance that was better seen from being on "the edge," never too far inserted nor external to the community: "What I saw and what was told to me, took place within a relation in constant process of modification" (Lartigue 1983:141). Another self-reflective account can be found in Carolina Ladino's (2002) fieldwork account in the shantytowns of northern Mexico (Juárez). As a Colombian feminist, and unlike white, western researchers in Mexico, Ladino felt that her fluency in Spanish and cultural empathy would help her gain acceptance. To her surprise, local Juarenses consider Colombians as "southerners," and stereotype them as backward, dirty, and untrustworthy. Foreign researchers were expected to "look" western. One interviewee made this comment when Ladino attempted to describe the purpose of her visit: "Carolina, you make yourself sound so important, like one of those researchers from abroad!" (Ladino 2002:4.6). It was her experience of "shared vulnerabilities," however, as a female living in a dangerous situation of unprecedented urban violence against women that helped her to gain trust and build friendships. Ladino also recognizes that host populations construct and re-construct identities of the visiting researcher while in the field, and that the boundaries of "differences" are in constant flux.

Notably, the above researchers are all non-Mexicans. This may partly explain why so much emphasis was placed on their gaining entry into a community. In contrast, Olga Montes García has recently reflected on her research experiences on urban entrepreneurs of Oaxaca (Montes García 2001). She was cognizant of her role as a female anthropologist, a Oaxacan native, and a Zapotec descendent, but also the stigma attached to being perceived as from a lower social class than those she studied. In order to "objectively" understand her respondents, and given the subtle racism she encountered, it was incumbent upon her to hide feelings of antipathy. In so doing, she was able to re-evaluate herself in a new light as both "dominated" and "dominant." Her time spent with Oaxacan elites was in sharp contrast to previous experiences with indigenous peoples of the Sierra Norte. With some irony, she notes that the indigenous *campesinos* (peasant farmers) respected the researchers' position of privilege and knowledge, whereas the reverse was true with the elites.

IN THE FIELD

My research took place over a period of seven months in 2002. The natural environment is an integral aspect of the daily life of Santa Catarina Ixtepeji and Santa María Yavesía, the two communities selected for study in the District of Ixtlán (see Appendix 4).[37]

COMMUNITY BACKGROUND

Ixtepeji is where anthropologist Michael Kearney carried out his field research as a University of California Berkeley Doctoral student in the 1960s, and later wrote *The Winds of Ixtepeji* (Kearney 1972; see also Kearney 1992). Without realizing it when considering Ixtepeji for my research, I was following in Kearney's footsteps and engaging in some longitudinal comparisons (see also footnote #39). The municipality of Ixtepeji, with 2,532 inhabitants (Census 2000), is located high above the valley floor of Oaxaca at 1,880 meters. Some of its pine-oak-fir forests are almost 3,500 meters high, often shrouded in clouds. Nights can be quite cold, even below the freezing mark during the dry season from November to April. This is in stark contrast to the semi-tropical climate of Oaxaca City, with temperatures commonly around the 30° Celsius mark.

Ixtepeji's 18,932-hectare forest has been commercially harvested since the 1950s. Prior to the early 1980s, most economic benefits went to FAPATUX (Tuxtepec Paper Company) a parastatal firm that was granted a 25-year timber harvesting concession. Much of Ixtepeji's forests had been degraded by poor silviculture techniques. When the community regained control of its forest resources in 1983, local technicians tried new methods favouring natural regeneration. The *Ixtepejanos* had seemingly altered their rather fatalistic outlook in the 1960s, "[with] the general belief that the future will bring conditions more undesirable than the present" (Kearney 1972:123), to guarded optimism for a sustainable future based on careful forest management.

Today, much of the community is involved in diverse forest activities. Forest products not only include lumber, but also many non-timber products: for example, collecting ornamental wild plants (e.g., mosses and heno for decorations), harvesting and exporting wild mushrooms, bottling spring water, tapping pine resin, and provision of ecotourism services. All of these are under the strict authorization of the Ministry of Environment and Natural Resources (SEMARNAT). Local women participate in and even direct many activities. Carefully prepared plans have been produced for each activity with the assistance of community forest technicians and a professional forester. Ixtepeji's forests were certified in 2001 on behalf of the Forest Stewardship Council (FSC), an international non-governmental organization (NGO) now headquartered in Bonn, Germany.

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[37] Ixtepeji is pronounced "Icks-tay-pay-hee" and Yavesía is "Yah-vay-see-ah."

The municipality of Yavesía is much smaller than Ixtepeji with 460 inhabitants (Census 2000) and is located another two hours east.[38] At 2,000 meters high, Yavesía is a beautiful mountain village surrounded by towering pines and oaks, and even more isolated than Ixtepeji. On a typical night in the house I shared with a local family, a couple of blankets were all I had for comfort as I listened to the rain striking on my tin roof and the occasional scampering lizard. A year-round flowing river with crucial cultural and historical significance called Shoo-Raa bisects Yavesía; the town is divided into two neighbourhoods: south of the river is La Asuncion, and the north side is San Miguel. Water is carefully looked after to meet present and future needs for human and animal consumption, and most recently for irrigation for resident's cornfields.

Yavesía shares the same 29,430-hectare landbase - Pueblos Mancomunados (literally *shared lands*) - with two other municipalities, Amatlán and Lachatao, and five smaller towns. Yavesía's legal-socio-political fight to manage "their" forests began in the 1940s, and escalated to violence in 1991, yet remains unresolved. Most residents justify their continued struggle to achieve autonomy and one-third of the landbase (9,140 hectares) as necessary to protect their forests. They say they have no intention to engage in commercial logging but wish to focus instead on water production and ecotourism. While certain irregularities exist in the forest management practices of neighbouring areas, some of Yavesía's assertions of poor logging practices seem exaggerated, and often tend to ignore or downplay their own shortcomings. While Yavesía residents feel their forests are better protected than neighbouring communities, at the time of my research, they had failed to develop an integral plan on how they intend to deal with forest fires, insects and diseases, firewood collection, small-scale logging, and charcoal producers. Ironically, perhaps, both Yavesía and Ixtepeji have earned regional, national, and international awards in the past two years. In November 2002, both communities were publicly awarded the prestigious World Wildlife Fund's (WWF) "Gift to the Earth" for their good care of their forests.

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[38] An estimated half of the town's population has migrated to Oaxaca, Mexico City, northern Mexico, and the United States.

NEGOTIATING ENTRY, BUILDING RAPPORT

Two points bear mentioning concerning my epistemological approach. My study purpose was to explore the construct of "ecological democracy" as defined by community forest decision-making in the state of Oaxaca, southern Mexico (see http://www.planeta.com/ecotravel/mexico/oaxaca/oaxacatrees.html). I eschewed quantitative sociological instruments such as household surveys to concentrate instead on direct observations, loosely structured interviews, and just hanging out to discover any hidden "truths." Second, while I consider myself a sociologist, my professional career had been mostly in forestry until initiating doctoral studies in rural sociology in 2000. This dual orientation approximates Jan Clarke's (2001) "transdisciplinary disciplines": the transfer of knowledge and skills between two distinct disciplines that shape one's ideas and help value science as both "expert" and everyday knowledge. However, my approach differs here since I discuss how blended disciplines can both hinder and facilitate field rapport and conceptual understanding.

To examine the complexities of ecological democracy through community forest decision-making, I decided that qualitative research would be the most fruitful approach. Besides interviewing over 50 respondents who could speak on forestry and democracy, I also spent significant time taking notes on forest conditions and attending meetings. To gain a better understanding of how local forests were being cared for and managed, I planted trees, assisted on forest inventories and biodiversity studies, and participated in an annual forest certification inspection. My research time was divided among Ixtepeji, Yavesía, Oaxaca City, and to a much lesser extent, Mexico City. Even though relatively close to Oaxaca City, travel to the villages was often difficult due to the irregularity of public transport. Since both communities lack hotels or guesthouses, I arranged to stay with local families. This helped build trust, and I gained additional insights into family and community customs.

As a well-educated and (relatively) wealthy male "gringo," it may seem that the odds were in my favour. Yet such reductionism tends to disguise hidden discourses of culture and mutual understanding, or the fact that perceived "truths" or "lies" may jointly alter the realities of conducting fieldwork (Metcalf 2002; Rabinow 1977). My identity as a foreign male was no more enigmatic than their identity as indigenous *campesinos*. Moreover, as I was on their turf, it was perhaps easier for my field contacts to manipulate or influence the direction of my research.

In my first week in Oaxaca City, I walked into the local office of the World Bank-funded Forest Resources Conservation and Sustainable Management Project (PROCYMAF). The director invited me on a two-day tour of several forest communities in the Sierra Norte. In Ixtepeji, after several presentations were made on local forest management activities at a campsite in the high pine-oak forests, we were treated to a delicious outdoor brunch of *tlatyudas* (grilled tortillas with mole, lettuce, and string white cheese) and steaming hot chocolate. This was an ideal moment to talk with some of the community authorities.[39] During a later informal meeting with about 30 community authorities, we discussed my intentions and negotiated my "entry"; much to my delight, there was enthusiastic support. The only conditions were that I was to share my practical knowledge on forestry and ecotourism with the authorities and workers, and report my research findings to them upon completion. It was also agreed that I would give classes in English from time to time.

Shortly afterward, I attended my first communal assembly in Ixtepeji, a meeting that involves a forthright discussion of issues such as removal of difficult authorities, punishment of forest abusers, and land use strategies. Local women and non-residents are usually barred from attending. Besides gender or residential status, other barriers to participating in community decision-making limit the democratic nature of the assemblies. For example, as one respondent commented concerning the Oaxacan village of San Felipe El Agua, "They want you to pay the [municipal] quotas but they won't allow you to even speak at a village meeting! If you speak up, you're often told to shut up if you're not a native [locally born]." Being allowed to attend an assembly was a major milestone according to Brad, a Yale doctoral graduate student in anthropology and forestry.[40] He had worked for 17 months in Oaxaca collecting data in the nearby mountain town of Ixtlán, and confided that he had never attended a communal assembly much as he had tried. It was also rumoured that Ixtepeji was one of the more difficult communities from which to get such an invitation. Brad said I should consider myself fortunate to have achieved this feat early into my field research.

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[39] On this trip a World Bank anthropologist asked me if I had read Kearney's (1972) *The Winds of Ixtepeji*. After sheepishly confessing that I had not even heard of it, he suggested that many anthropologists regard it as a classic. I was also amazed to find that some Ixtepejanos have their own Spanish copy, and many still remember Dr. Kearney.

Yavesía was more problematic to gain entry. Most forestry agencies had no intention of working with the community and warned me to be careful. One state agency official characterized Yavesía as being controlled by "misguided and violent peasants." Undeterred, I asked a WWF official to arrange a meeting with Ramiro, a community activist and head of Yavesía's ecotourism program. Later, I realized that this was a bit of a test from both the WWF and Yavesía's position regarding my interest and motives. Ramiro lived part of his time in Mexico City to pursue a Master's degree in rural development, but also actively working with other authorities in their legal and municipal activities. His tentative responses to my initial questions may have been masking his intention to discover whose side I was on. After our first *plática* (talk), Ramiro agreed to introduce me to the community. My wife and two children were visiting from Canada and we travelled by a rickety bus almost fours hours to Yavesía. We arrived just as a television documentary crew was finishing up interviews on an ongoing land conflict with neighbouring communities. We were mostly ignored for about an hour, but eventually were taken to the modest home of a local authority and introduced to his family - the Mendozas. The next day, I had the good fortune once again to take part in a communal assembly where I was formally presented to the villagers.

Obviously, developing open, friendly relationships with key contacts is crucial to gaining entry into a community and building rapport. For example, "[r]eciprocal associations with one family were often an avenue toward new opportunities for meeting informants (sic), and for following social networks on the ground" (Cohen 1999:173). This paralleled my experience with the García family in Ixtepeji and the Mendoza family in Yavesía. By living with these two families, I was able to arrange many of my interviews through suggestions and introductions made by my hosts. It brought me much closer into a rich world of cooperative communal celebrations and traditions. By fitting in as part of an extended family - one who was expected to attend community meetings, help with household chores, and be on time for meals - I also may have met Michael Angrosino's (1986) category of a "nonthreatening outsider."[41]

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[40] All names of personal contacts mentioned have been changed to protect their confidentiality.

With living arrangements made and official approval granted, I began my research. My first few weeks were often frustrating since everyone seemed too busy to spend any time with me, or perhaps were "testing" me out still. As time wore on, I began to "learn" the culture and developed close friendships with a few individuals in each community.

I also experienced some of what Campbell (2001), Kearney (1992), Lartigue (1983), and Nader (1986) underwent in terms of mezcal drinking. Even though I never acquired a taste for the harsh, distilled alcohol from the agave cactus, I understood its social value. To drink on occasion with the village men was a bonding experience in which feelings were openly shared about practically any subject, a practice that emphasised friendship and goodwill. As Kearney (1972) states, "the main motivation to drink [in Ixtepeji] is to intensify emotional experience as a means of momentarily transcending a negatively perceived social and geographical environment. … [Whereas not to drink is] a gain-loss decision-making process in which the traumatic effects of drinking are weighed against the negative social sanctions that accompany abstinence" (Kearney 1972:109). Here, my previous experience in Peru, where I had also felt pressured to share *chicha* (corn beer) and *aguardiente* (sugar cane alcohol) with Peruvian *campesinos*, helped enormously. After a day of tree planting followed by a raucous night at a local cantina with Ixtepejano authorities, I noticed a change in attitude. It went from mild curiosity about my motives and presence to teasing and off-colour jokes, and then finally to being considered as one of the gang. After this first social bonding experience, I was praised for breaking up a fight between two drunken authorities and being able to hold my mezcal. I also realized like Campbell that good information about cultural and political dynamics could be obtained from these occasional binges: "People acted freely at the fiestas and other social gatherings, uninhibited by the strictures of the artificial interview setting" (Campbell 2001:35).[42]

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[41] In the field, it fascinated me that there was a greater sense of punctuality by indigenous people than many Oaxacan urbanites. My field interviews and meetings were generally held at the appointed time, whereas these could be delayed by hours in Oaxaca City, and were often rescheduled. Most indigenous communities in Oaxaca do not adjust their clocks to state-imposed daylight savings time, and my contacts would arrange to meet at "normal" time, not "city" time.

On the other hand, this alcohol-laden camaraderie could be dangerous. Alcoholism remains a significant societal anomie among many Ixtepeji and Yavesía men, and the savvy researcher often has to learn "on the cuff" how to deal with it (Arnold 1995). To be seen as the *guero* (light-coloured male) who gets drunk all the time would not have been in my best interest. To counter this problem, I tried to avoid sharing drinks. Another tactic was to limit myself to one or two "shots" of mezcal, then exit as politely as possible so as not to offend. Still, I was not always successful. Choosing not to drink early one morning insulted one forest leader in Ixtepeji, a fact he brought up to me several times over the course of my stay - "*¿Porqué no tomas conmigo? ¡Me prometiste!*" (Why don't you drink with me? You promised!).

After careful reflection, several factors pointed to what, how, and why things went well, and where plans may have fallen short. As already mentioned, one key consideration that both aided and hindered this research was my past professional experience as a forester and community development worker. Even though the theoretical foundation for this research was primarily sociological in nature, I believe that my forestry background helped put things into perspective, similar to how her biology training helped Clarke (2001). My hands-on experience in forestry put some residents and interviewees at ease. For a short time, I was one of "them" - namely, the community and the families that I came to know.

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[42] Campbell also discusses the negative aspects of combining research with drinking, taking pains to avoid whitewashing "the problems created by machismo, patriarchy, and alcoholism" (Campbell 2001:32).

On the other hand, the stigma attached to being a forester was problematic, particularly in Yavesía. It affected how people communicated with me, even what was revealed, and brought into question key factors such as sincerity, honesty, and trust. Foresters are often accused of prioritizing logging over preservation, as the spotted owl debate of the Pacific Northwest demonstrated, although foresters are increasingly trained to address social issues (Hellström and Vehmatso 2001:45-46). Regardless, I was probably lumped into a timber-focused category by more than a few environmentally minded individuals.

Another example further illustrates this point. Some may assume that a prior background in fishing would help to study the social relations of fisherfolk affected by the decline of the Atlantic cod industry. Direct, practical experience might also permit a deeper understanding of the issues and perspectives at stake. These factors were most certainly the experience of anthropologist Philip DeVita who worked at sea on private yachts and fishing vessels for 15 years, including along the Atlantic Canada coast (DeVita 1992). On the other hand, such experience could also backfire if seen by some to be negative "baggage" since neutrality has been broken (the notion of neutrality is further discussed later). What about those individuals with concern for the environment who take an "anti-fishing" stance? How will conservationists react to a researcher who "shares the blame" for engaging in what some may consider an exploitative activity? The researcher may be seen as tainted by presumed complicity with those who earn their living from fishing.

I suspect that the advantages of being a male, foreign forester, however, far outweighed the disadvantages. I was often introduced to others as "our friend, a forester from Canada." This was likely easier to explain than "forest sociologist," which is not a typical position anywhere (even some personal friends and family have difficulty understanding what it is I do). One Oaxacan resident teasingly asked, "Trees don't talk! So how can you expect to study them?" Even so, many *campesinos* seemed to grasp this interdisciplinary combination better than non-residents who knew little of forests and those who rely on them. Many people of the Sierra Norte realize that mountain forests are a source of livelihood, protector of soils, and provider of clean water. With this highly attuned socio-ecological understanding, it made sense to many authorities that I had come to study how they made decisions about their forests. Still, it did me little good to become complacent about my *psuedo*-professional role (*psuedo* in the sense that I am no longer a working forester, and since I have often assumed a moderate environmentalist perspective in my career). Some of the above contradictions illustrate the paradox "that the more we are able to speak with professional competence or confidence, the less important it is that anyone should listen to what we have to say" (Barnes 1984:102-103). In this sense, a better position to take was as an uninformed but careful listener.

The following incident also illustrates how the ambiguity I faced as a social scientist and forester was reconciled. Miguel, a highly respected community forest technician from Ixtepeji, was a much hoped-for interview respondent. Try as I might, Miguel either refused or "postponed" to be interviewed for several months. It was obvious that he preferred not to waste productive time with a sociologist, and he was unconvinced that I knew anything at all about forestry matters. In my final weeks, I finally convinced Miguel to let me join him on a forest inventory. As we climbed a pine-covered hill, he was worried that I would fall and hurt myself (although it was steep, I had been on similar slopes many times). When we arrived at our sample plot, Miguel asked me to hold a tape measure while he took a reading with his clinometer (tree height measuring tool). After several trees were measured, just for fun, he asked me for an ocular height estimate of a large nearby pine. I put it at 33 metres. Much to his surprise, after measuring it with his clinometer, he found that I had underestimated it by only 50 centimetres. Thinking this to be a fluke, he tested me on other trees. Each time my guess was relatively close to the instrument reading. Afterwards, Miguel finally granted me a highly reflective interview. It seemed that he could relate much better to me as a forester than as a sociologist. Had I not passed his "test," I may not have been able to gain access to his ample knowledge of local forestry.

GENERAL RESEARCH CHALLENGES

I occasionally found it difficult to carry out my interviews. I often had to rearrange dates and times due to cancellations, and some hoped-for interviews were never completed as people became "too busy" to meet again. One government official agreed to meet with me on three separate occasions but to no avail - something always came up. For several others, either my questions on political aspects of forest management in Oaxaca were too sensitive, or they lacked confidence or authority to speak on behalf of their agency. One official practically booted me out of his office, indignantly stating "What do *I* think of democracy? What kind of question is that? What does it have to do with forestry or tourism? I could tell you my opinion after work over a beer, but I sure can't tell you here in my office!"

These sorts of incidents, while infrequent, were reminders of a cultural gap between the interviewer and the interviewed. The responsible researcher must accept that academic work carries a certain authority or power (Montes García 2001). Whether I liked it or not, my presence was likely viewed as that of an educated outsider peering into their cultural spaces, perhaps uncovering uncomfortable "truths" in the process. Many key individuals in Metcalf's (2002) Borneo, Rabinow's (1977) Morocco, Campbell's (2001) Juchitán, and Nader's (1986) Talea also felt suspicious of the researchers' motives, especially in the first few weeks of contact. They were eventually accepted into the community fold, even though they may have been remembered on return visits "only in an idealized and exaggerated form …. [since any] negative aspects tend to be forgotten or repressed" (Nader 1986:106). In Ixtepeji, for instance, those who knew him, almost in mythical proportion to what he likely experienced, spoke of the anthropologist Michael Kearney in glowing terms.

Most Ixtepejanos seemed content that I was trained in forestry or was friendly with forestry-related agencies. However, my personal decision not to take an advocacy role may have caused some individuals to distrust me, particularly in Yavesía. Initially, I seemed to enjoy a fair degree of openness with Yavesía's community authorities. Near the end of my research, however, one of my key contacts became reluctant to share his thoughts, contacts, or community documents. During my final visit in early December 2002, he expressed regrets that I could not obtain data being collected by a local agronomist, even though other authorities had earlier given me permission. He told me that this situation had been specifically discussed in a recent community assembly (others later said that no assembly had been held, nor were they aware of this restriction, although they were sympathetic to data sensitivity given their legal-political battles).

Raised suspicions in Yavesía about my motives were likely worsened by the volatile political situation with their neighbours and certain government agencies, which grew increasingly tense in 2002. This alone may have been sufficient to cause reluctance on the part of community authorities. They knew too well that I was working with other neighbouring communities and interviewing government officials - perhaps even collaborating with them. Yet I think the problem went much deeper than sheer suspicions. As a forester, it may have been assumed that I could not "see" their ecological position very well. My forestry training and my growing understanding of local conditions convinced me that ecologically and socially sensitive forestry was a feasible option in the Sierra Norte, even if most of Yavesía rejected the possibility. My biggest mistake, I believe, was to voice these thoughts during my final weeks in Yavesía, which most likely alienated me from this particular authority. In his mind, anyone in support of logging must be on the side of their adversaries - the government and the loggers. Ironically, my perceived collaboration in Yavesía also caused concern among certain government agencies and NGOs unsympathetic to their struggle. I was made aware of this from the beginning, when a forestry agency director asked why I had chosen Yavesía, and exactly who had recommended the community to me. This may have been his way of asking whose side I was on. Yavesía was seen as a thorn to some, since their ongoing conflict over an area shared with seven other communities had led to a failure to meet forestry certification requirements. Not surprising, even obtaining a map delineating the contentious land boundaries was difficult.

I tried my best to avoid a dangerous scenario of taking sides. My daily research always involved balancing a sensitive situation so as not to offend or raise suspicions among my contacts. If maintaining neutrality had cost me friendship with some, I preferred this situation to raising false expectations of any complicity in Yavesía's land title conflict. Stepping over this boundary into explicit political support or advocacy would have probably cost me dearly in gaining access to individuals hostile to Yavesía's predicament. In this respect, my approach departed from Campbell's (2001) "activist anthropology" or "politicized ethnography." Taking sides is a dilemma faced by many researchers in the field. In Whyte's words, "If the researcher is trying to fit into more than one group, his [or her] field work becomes more complicated. There may be times when the groups come into conflict with each other, and he [or she] will be expected to take a stand" (Whyte 1981:306). In his ethnographical study of technological change in radiology, Stephen Barley (1990) witnessed an incident of extreme hostility and was asked to assist the aggrieved individual, but chose not to risk compromising his position as a researcher.

At times, I found myself defending Yavesía to various officials or to other communities. However, taking a much deeper advocacy stand for Yavesía would likely have closed doors elsewhere. I was also cognizant that other foreign researchers in Oaxaca and Chiapas had been asked to leave their study communities (e.g., Klooster 1997) or even the country in extreme cases due to personal advocacy. If this had occurred, I would have been left with an incomplete study. I needed to examine all facets of ecological democracy to gain a more comprehensive picture. No logging, or complete preservation, was just one possibility for forest-based communities. It really wasn't worth sacrificing other alternatives for the sake of one community's interpretation, even if that option may have been the most ecologically sound (preservation was debated as well, given the pressing problem of fire potential and pine beetle outbreaks). For this research at least, I needed to understand multiple views and practices of forest use (or non-use). Thus, neutrality had to be maintained as much as possible to obtain these varying perspectives. I thought I had achieved such detachment, although some were obviously unconvinced of my neutral stance. This again evokes the forester or the social activist dilemma. For certain individuals, I could not be both, and in retrospect, it may have been foolish of me to expect everyone to believe such a possibility could be so - after all, trees don't talk.

OTHER CULTURAL CONSIDERATIONS

Apart from these concerns, I faced other methodological issues from my comfortable position of privilege, or researcher "bias." Along with terms like "validity," "objectivity," and "informants," bias is an ambiguous and contested concept in social research (e.g., Hammersley and Gomm 1997; Letherby 2003:7, 70-72). For example, the term bias is "often used abusively or defensively by anyone who feels challenged by a discussion of the political aspects of the research process" (Letherby 2003:72). For this reason, and since my research topic *was* political, I avoid the use of "bias" here but recognize that it exists in the form of "privilege."

In addition to my advantaged position as a wealthy, educated foreigner, perhaps the most difficult aspect to overcome was my own gender. The impact of gender on sociological inquiry has been discussed by other authors, although generally from a female researcher perspective (Arendell 1997; Golde 1986; Ladino 2002; Letherby 2003; Vázquez García 2001). As a man immersed in a culture of *machismo*, it was difficult to overcome a male-oriented perspective. Many rural women felt uncomfortable talking with a strange, foreign male, and often deferred any conversation to their spouses. To compensate for this reluctance, I observed the actions (or inactions) of local women in forestry decision-making and employment, and collected secondary information on the role of women in Oaxacan rural communities. I also attempted to interview women who normally were not involved in key leadership roles or "hardcore" forestry activities such as logging and running machinery. Much to my surprise, I found that many women (and children) had never even stepped foot in nearby forests.

Being a foreigner also had both its advantages and disadvantages. Referring back to the difficulties faced by Montes García (2001), our very "gringo-ness" is associated with considerable knowledge, prestige, and wealth. The truthfulness of this is not the point; it is the perception that matters. As a foreigner, doors to elites and *campesinos* may open which may otherwise be closed to autochthonous researchers. On the other hand, a reasonable understanding of the local language or dialect is key to fieldwork anywhere, and foreign researchers may be at a disadvantage, even if they are reasonably fluent. By language, I do not just refer to fluency in an idiom other than one's own, but in the way language is used: tone, words, expressiveness, and body language affect how we are perceived by others (for how male language has dominated society, see Letherby 2003:30-34). As a native English speaker who is fluent in Spanish, I was comfortable enough to communicate with Mexican residents, both urban and rural. I had first learned Spanish in Guatemala on a 6-week intensive program in 1988. My fluency improved considerably during my work as a forestry assessor in the Peruvian Andes and other projects (see http://www.planeta.com/ecotravel/south/peru/cajamarca2.html; http://www.planeta.com/planeta/00/ 0010 peru.html). Most of my interviewees were fluent in Spanish. However, at times I did not understand the local linguistic intricacies. New words (for me) and new contexts slowed the interview process in many cases. Conversely, previous words learned in Peru such as *chacra* (small farm) instead of the Mexican equivalent of *lote* or *predio* were often inadvertently incorporated in my daily dialogues with *campesino* colleagues. These errors often served as a humorous conversation icebreaker.

In my shifting role as forester and sociological researcher, it was often tricky to stay focused. At first, I was worried that I was being seen as just another *preguntón* (nosy person). Over time, though, I was gradually accepted into community life - planting trees, accompanying forest workers, and occasionally participating in meetings. Yet, too much direct involvement may have subtly hidden important pieces of evidence from my view, even by my own doing. As Lartigue (1983) states, "[in the field, the people] make me understand what I have to see and tell … but I look and don't see, I listen and don't hear … what I didn't see, I hid from myself by having forgotten my own presence" (Lartigue 1983:144). In other words, a complex transformation in the researcher may occur from "outsider" to "insider" and back again, continually oscillating between two worlds, and often losing one's sense of balance. To immerse oneself in another culture for an extended period of time implies certain personal sacrifices as positivistic scientific inquiry gives way to heuristic, often obscured meanings (e.g., Metcalf 2002; Rabinow 1977). The very act of participating as both observer and actor transforms and shifts one's perspective, making it difficult at times to separate reality from fiction, or empirical "facts" from emotive feelings and lived experiences.

CONCEPTUAL LESSONS

No "confessional tale" of a researcher's experience would be complete without mentioning how one's conceptual understanding may have changed after spending significant time in the field. As Denzin puts it, "[t]he researcher, like the subject (sic), is always in the hermeneutic circle, always seeking situations and structures in terms of prior understandings and prior interpretations" (Denzin 1989:82). This circle by no means disappears upon returning to one's home country. Here, the ethnographic researcher perceives his or her "world through eyes that have lost their innocence and now refract reality differently" (Kearney 1992:55). I have no doubt that this "crossing over" and back again was imperative if I was to understand the broader picture. Similar to Jeffrey Rubin's (1997) study of radical politics in Juchitán, Oaxaca, the *campesinos*' insistence on the centrality of their culture in their lives helped me perceive the connections between their daily life and politics. However, this understanding came much later after I returned to Canada to begin data analysis.

While still in the field, I didn't always buy Yavesía's argument that forest protection (no commercial logging, but "controlled" communal use and access) was inherently better than appropriate silviculture. Yavesía's ecological awareness was much greater than I had ever experienced before in working with rural communities. However, the forester "inside" was likely dominating the sociologist "self," attesting to my *dis*advantaged position of previous expertise. Forest management was part of my conceptual understanding. I firmly believed that when done correctly, forestry could improve the health of old-growth standing timber.

After sorting through my interviews, notes, and photographs back home, I came to realize that the forests could be "managed" in other ways. Indeed, commonly used words such as "management" and "democracy" began to take on greater meanings for me. I remembered walking with local residents through the cloud forests where some of the only old-growth fir (*Abies* spp.) of the Sierra Norte remain, with impressive vines and bromeliaeds hanging from mossy covered branches. In these recollections of images and conversations, I came to "see" Yavesía's side from an enlightened perspective. If they wished to preserve what they felt were *their* forests, and were basing this decision on a communal and arguably democratic process, then why could this not be a viable alternative? Could it be that all the government and corporate managers, foresters, and wood workers were wrongly accusing Yavesía of taking an unreasonable position? When does a rationale based on a deeply felt love of forests and the life they sustain overcome an economic logic, sustainable or otherwise? Eventually, I accepted Yavesía's position as just as "valid" as those pressuring them to log their forests. The sociologist side finally came to inform the forester locked within. Yet, I couldn't have achieved this conceptual insight without having spent significant time in Yavesía and their woods, sharing biographies with other social beings to make and interpret various knowledge-claims (Stanley 1993).

I also realized that my fieldwork had put me in contact with another world that necessitated collaborative communication and understanding. As Liz Stanley puts it, our lives as sociologists "are composed by a variety of social networks of others that the subject of 'a life' moves between" (Stanley 1993:50). Knowledge-production differs by social-location and the complex weaving of multiple biographies (Stanley 1993), as well as by the "blurred boundaries and shared practices" of multiple identities (Clarke 2001; Ladino 2002). The shifting of various lives through shared (and unshared) experiences, researcher and researched alike, helped me achieve a degree of reflexivity that informed and shaped my research. For example, although socio-environment change for the two communities studied was not an essential outcome of my research, I realize that it remains essential for both "social-locations." It is my obligation, not just as a researcher, but more importantly as a friend and collaborator, that I continue to work with Ixtepeji, Yavesía, and other communities on *their* terms whenever possible and appropriate. This must be the case even if I must do so from within the realm of my comfortable gringo world.

CONCLUSION

In this paper, I have argued that self-reflection as a social researcher continues to be a worthy endeavour to bring things into a clearer perspective - both for researcher and for those researched. My goal has been to reach a greater understanding of my own fieldwork rather than presenting some "wild and wooly involuted tract … that seems to suck its author (and reader) into a black hole of introspection" (van Maanen 1988:92). It has not been my intention to advocate that one must have spent time in the trenches, or have had a previous degree in a relevant thematic area to make for a successful research study. A police officer does not need a psychology degree to make an arrest or to calm a domestic dispute (although arguably it may help!). Obtaining reams of multiple expertise is most likely impractical, if not downright improbable, for most researchers. Furthermore, as shown in this paper, it is not always beneficial to be experienced in certain fields, since accusations of partiality may ensue.

Field research processes can be more straightforward if the researcher comes clean with his or her specific socio-cultural perspectives. Any potential weaknesses can be turned into study strengths with a little effort and a willingness to look, listen, learn, and apply. Field research dealing with humans is never one-sided but rather an experiential give-and-take of shifting circumstances. The researcher-researched interaction process is continuously negotiated and re-negotiated, as it must be.

This forthright discussion should assist others in conducting field studies in regions or countries not entirely familiar to the researcher. It makes little difference whether the researcher is "on an exploration into unknown territory" (Whyte 1981:357), or a well-trodden path that hints at new discoveries. More importantly, high flexibility in research methodologies and genuine attempts to transcend cultural barriers are essential where the study environment is constantly shifting. An adaptable and open attitude to field studies, combined with significant time spent in local discourse and socio-cultural activities, may make the difference in gaining acceptance and conducting successful interviews. Likewise, as field researchers we must not shy away from previous work experiences (or lack thereof) and our positions of privilege. Instead, field challenges should be faced head on, even embraced and used to mutual advantage whenever possible and appropriate.

APPENDIX 2: INTERVIEW GUIDE (ENGLISH VERSION)

Personal

1. What is your name and age? (age is voluntary)

2. How long have you lived here?

3. Do you like this place (village, town, city, state)? Why or why not?

4. What do you do to make a living? (your occupation, if any)

5. How long have you been doing this for?

Forests (if applicable, i.e., if familiar with condition of local forests and their management)

6. Please tell me a little about the forests here. For example, what do the forests mean for you? Are they important for you? What do you see/hear/feel when you are walking through them?

7. Have you noticed any changes in the land, or how it is used?

8. In particular, have you noticed any changes in how the forests are managed?

9. If yes to #7 and/or #8, what kind of changes? (i.e., positive or negative).

10. When do you think these changes began?

11. What do you think caused these changes?

12. If these changes were negative, what can be done to improve the situation?

13. Has the national government (state and local) helped in forest management here (Oaxaca)? In particular, do you think President Fox is encouraging corporate forestry development here?

14. For all levels of government in #13, if yes, how? If no, why not?

Forest Participation

15. Do you work (or have you worked) in forestry?

16. More specifically, do you (or have you) work(ed) for any organization related to forestry?

17. If yes, how is (or was) this experience?

18. Do you help in decisions made about the forests here?

19. If yes, how? If no, do you think you could help in forestry decisions or activities?

20. If you are concerned about how the forests are managed (or used) here, how do you let your community or institution know about this?

21. If you do this (or have ever done it), how long have you done so?

22. How (or why) did you decide to get involved in this?

23. Do you think your efforts have made any difference? Why or why not?

Other Types of Participation

24. Do you participate or you are involved in other social aspects here? (for example, education, housing, health, etc.)

25. How long have you been doing (or participating) in these?

26. What kind of results have you had?

Democracy

Now, I am going to ask you a few questions about democracy, an important part of this study. Democracy has a lot of different meanings, and may mean something else entirely for each person. Democracy has both political and non-political features.

27. First of all, what does democracy mean to you?

28. More specifically, what does it mean to be a citizen?

29. What are rights? Do you think democracy involves rights? Why or why not? If so, what kind of rights?

30. Does democracy have anything to do with politics? With equality? With justice? Please explain.

31. Should everyone have the right to vote at election times? In running for office or positions of authority? Why or why not? If so, how? Who is everyone?

32. Should everyone have the right to participate in decision-making? If so, under which circumstances? How?

33. Is there democracy in Mexico? If so, since when? If not, why not?

34. If it has been only recently, what do you think has prevented democracy from establishing itself in Mexico?

35. Do you think there is democracy in your community or organization?

36. Do you think there is democracy in decisions made about forestry here?

37. For #35 and 36, could you please elaborate? For example, who is involved in running for elections, voting in elections, decision-making, etc.? If some people are excluded, how so, since when, and why? What kind of decision-making are people involved in?

38. Does democracy have anything to do with "usos y costumbres"? Please explain.

39. If democracy exists here, do you think it should be improved or extended? Please explain.

40. Do you believe in democracy? Would you consider yourself to be a democrat?

Finally,

41. What do you think of the tragic event that recently occurred in the Sierra Sur of Oaxaca (May 31, 2002 massacre of 26 *campesinos* returning from forestry work)?

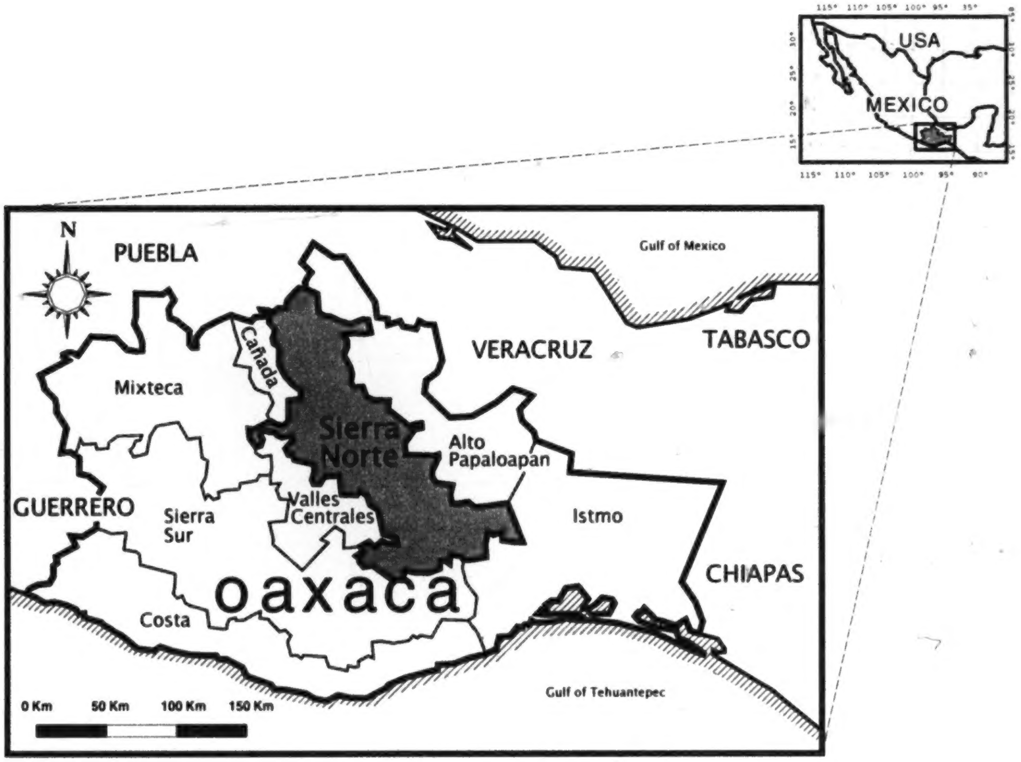
42. Do you think this may have had something to do with the forests? With the land? Why or why not?

43. Did the state government have anything to do with this? Why or why not?

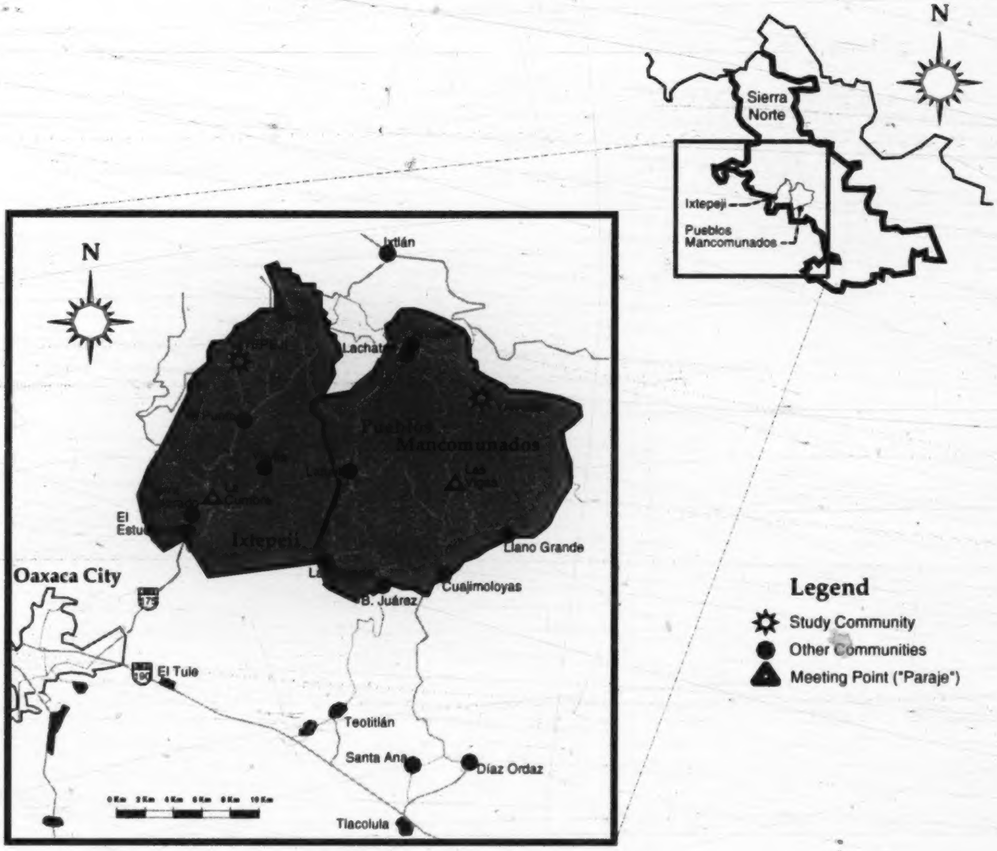
44. Could the same thing happen here? Why or why not?

Do have any other comments or questions you would like to ask? Thanks for your time!

APPENDIX 3: MAP OF OAXACA AND THE SIERRA NORTE, MEXICO


USA
MEXICO
115° 110° 105° 100° 95° 90°
N
PUEBLA
Gulf of Mexico
VERACRUZ
TABASCO
Mixteca
Cañada
Sierra Norte
Alto Papaloapan
GUERRERO
Sierra Sur
Valles Centrales
Istmo
CHIAPAS
oaxaca
Costa
Gulf of Tehuantepec
0 Km
50 Km
100 Km
150 Km

APPENDIX 4: STUDY SITES: IXTEPEJI AND YAVESÍA


N
Sierra Norte
Ixtepeji
Pueblos Mancomunados
N
Ixtlán
Pueblos Mancomunados
Las Vigas
La Cumbre
El Estu
Ixtepeji
Llano Grande
Cuajimoloyas
B. Juárez
Oaxaca City
175
190
El Tule
Teotitlán
Santa Ana
Díaz Ordaz
Tlacolula
0 Km 2 Km 4 Km 6 Km 8 Km 10 Km
Legend
Study Community
Other Communities
Meeting Point ("Paraje")

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